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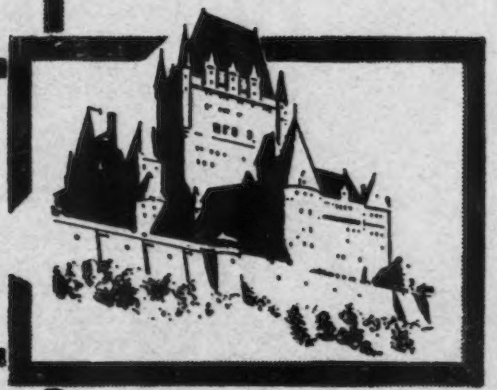

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PROGRAM ON PAGE 169

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Canadian Journal of
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VOLUME 45 TORONTO, APRIL 1954 NUMBER 4

Health Service Organization as a Task in Applied Social Science

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WHEN the late Joseph W. Mountin, one of America's really creative public health leaders, was in Geneva in 1951 he described a survey to evaluate health programs in South America, soon to be undertaken for the Institute of Inter-American Affairs. He said, "And, of course, we're going to have an anthropologist on the survey team because, you know, you can't make a health study these days without some kind of social scientist in the picture."

Dr. Mountin's comment reflects a major change that has come over public health thinking in the last 10 or 15 years. After brilliant successes for half a century in the conquest of disease through sanitary engineering, immunization, chemotherapy, and applied epidemiology, public health has become confronted with the fact that further progress calls for an understanding of group behavior as a necessary precedent to the introduction of new forms of social organization for health purposes. The idea, growing from the end of the Second World War, that technical assistance—without benefit of commercial, political, or religious motivation—should be extended from the industrialized to the vast agricultural and impoverished areas of the world, has undoubtedly heightened appreciation of this. For when one seeks to export a technical practice from one culture to another, one is really faced with fundamental questions about the social assumptions on which the practice rests in *any* culture.

Leaders of public health and social medicine have perhaps long recognized this dependence of technology on sociology in a general way. But the social

An address presented at the annual conference of the British Sociological Association, London, March 28, 1953.

analyses were on a gross, rule-of-thumb basis, like tissue pathology before the microscope. As there has been maturation of social science techniques on the one hand and public health needs on the other, the need for a real professional partnership between the disciplines has become better understood.

II

Partly because of encouragement from the health and medical world and partly because of their own search for quantifiable social data, social scientists, on their own, seem to have become greatly interested in health problems. In 1951 a symposium of the Eastern Sociological Society in the United States was devoted to "Inter-Relations of Sociology and Medicine." The Health Information Foundation in New York recently published *An Inventory of Social and Economic Research in Health*, listing 296 studies being conducted in five major spheres: (1) surveys of health levels, facilities, services, and personnel; (2) individual and group participation in health programs; (3) health education; (4) industrial health; and (5) correlation of health levels with economic, sociological, and psychological variables (1). Not all these studies make use of qualified social scientists, but most of them do, and all gather data of a primarily sociological rather than biological character. Last June at the International Symposium on Anthropology held in New York, William Caudill presented an inventory on "Applied Anthropology in Medicine" which demonstrated the large content of medical material found in anthropological and sociological literature, as well as the sociological material in medical studies, especially in psychiatry (2). And yet, despite several hundred references, he gave scant attention to the large public health literature of social epidemiology such as that produced, for example, by the university departments of social medicine in Great Britain.

The contributions of social science to health and medicine can be analyzed in several ways, but they boil down to two principal spheres: first, a description and analysis of social factors involved in the causation of health and disease in the individual; and second, a description and analysis of methods of social organization for the prevention or control of disease in the group.

The first approach yields studies in etiology, important for planning practical programs in the second sphere. They might be considered the basic science undertakings, compared with the applied science efforts of the second sphere. In this category are the abundant studies on the effects of income, housing, occupation, civil status, rurality, interpersonal relations, and other social factors on health status. With the permeation of the social sciences by Freudian psychoanalytic theory, there has been an enormous interest in the influence of culture on mental health and, conversely, the influence of psychological development on culture. Whether or not Freudian psychology, useful in understanding the individual, has been over-extended in its wide application to the dynamics of groups, classes, and societies is a question that disturbs some social physicians.

The second approach, studies on social organization for the control of disease in the group, is of value in helping to advance the public health within the limits of present knowledge of etiology. In this sphere are the studies of

medicine as a social institution, including broadly speaking the history of medicine and public health—how men have coped with disease through the ages and in different societies. Herein are the studies of interpersonal relationships within the medical and public health world, inside hospitals, inside ministries of health, and the doctor-patient relationship. And herein are studies in professional, community, and governmental organization necessary to bring the benefits of science to people.

III

The fact is that our present knowledge of etiology is considerable. There is untold disease and suffering, the cause of which we know perfectly well, so that we possess the techniques for both prevention and cure. We know the techniques necessary to prevent tuberculosis and to cure it if it occurs. We know how to prevent most infant deaths, most malnutrition, most dysenteries, venereal disease, and malaria. We know effective techniques for the treatment of pneumonia, diabetes, and peptic ulcer; and even for many, if not all, cases of heart disease, arthritis, and cancer. Yet these diseases and many others kill and disable millions yearly because we do not succeed in applying what we know.

It is not just a question of money. Of course, it is partly money, or more accurately a question of the total over-all economic resources of a nation or community. But it is relatively easy to demonstrate that vast unmet health needs persist in countries that easily possess the economic resources to meet them. The economic resources are simply being used for other purposes, which may or may not meet the felt needs of most of the people. Moreover, the money that is spent for health purposes may be spent wholly ineffectively.

It is largely a question, therefore, of intelligent application of known techniques to social situations. In fact, this would seem to be the simplest and most basic definition of public health work and the reason why health service organization is essentially a task in applied social science.

The idea of "techniques" is meant to include more than purely medical or sanitary engineering procedures. If the physician were king, so to speak, with no other motive than the attainment of health for his people, he would still have to think very carefully to decide how much of the available resources of his kingdom should be spent on doctors and drugs, compared with food, housing, recreation, and, indeed, extravagances like liquor and tobacco. The achievement of physical and mental health follows no simple equation and undoubtedly depends far more on circumstances outside the strict sphere of health service than within it. The intelligent application of known techniques for health purposes, therefore, involves discretion among techniques, services, and commodities in a hundred spheres. It calls all the more for social rather than purely biological wisdom.

IV

To sociologists this may all seem like laboring the obvious. Yet it is only beginning to be appreciated in our programs of training in medicine and public health, and even less in our staffing of public health agencies. Advanced

training in public health, not to mention medicine, is still 90 per cent biological. It seems to be assumed that understanding in the natural sciences must be taught, but in the social sciences it may be expected to come automatically. If the harbouring of biases, superstitions, false assumptions, or irrationalities is an index of the need for education, the opposite assumption would seem more justified.

Clarification of the structure and functioning of society should be a continuing task for which the health administrator should look to the social scientist. The social scientist should advise not only what adjustments should be made in health techniques, to fit them better to a given social situation, but also to what extent the social structure may be expected to change, in time, in order to accommodate new techniques designed to advance the welfare of people.

Such advice is particularly necessary in international health work, where the ideas of one culture are frequently being transferred to another. But it is necessary in all countries, even in the most economically and technologically advanced, where most of the scientific techniques themselves are born. The very complexities of health service organization, and the general social organization of which it is a part, call for considerable analysis if the health administrator is to promote the slightest change in the form or content of a health service.

V

Organization or *group action* with respect to health service has occurred since the first primitive tribe decided to support a medicine man out of collective gifts. Ancient Babylonia had its legal codes governing the conduct and payment of physicians. The Greek city-states had their public physicians for the care of the poor. Rome had its public sanitation systems. The medieval church and its monasteries offered hospital care to the homeless and poor. All these measures of organized health service involved social changes to achieve a health objective. With industrialization and the democratization of society, health service organization has become steadily more complex. We now need functionaries, variously called almoners, social workers, or "assistantes sociales," just to figure what organized social and medical resources exist in a given community, so that persons needing help can avail themselves of it (3).

The various forms taken by organized health service are usually reflections of more fundamental movements in the social structure, to which health is only adjectival. There is, for example, religion with its charitable motivations toward the destitute, including the healing of their ills. There is the labor union, and before it the medieval guild, with its objective of protecting its members through such devices as sickness insurance funds. From the general police powers of government emerges the public health movement designed to protect against contagious disease. From wars grow military medical establishments and after them programs of medical care for veterans or pensioners. From the needs of industry emerge occupational health services, and from educational systems come school health services. From economic pressures combined with democratic demands come a hundred and one manifestations of the welfare state as applied to health.

As the people in a community, a province, a nation, a continent, and the world become more and more dependent upon each other, and influenced by each other, it becomes necessary to develop geographic and political hierarchies of social organization to protect and promote health. In one American county studied a few years ago, 155 categories of agencies were found to have a direct impact on the health of the 60,000 people in the area. This study interpreted health service, moreover, only in a strict sense, not including, for example, agencies in the field of housing or general education. In the health sphere, it included organized bodies with activities of either preventive or curative character and, of course, organization through voluntary initiative or the more highly collective form we call government. If discrete organized bodies in these spheres were counted, rather than general categories, there were 640 such social entities, and of these 447 took origin within the county, 68 elsewhere within the state, and 125 at the national level (4).

America is a fairly young society and an examination of the forms of health service organization in the older societies of Europe yields a picture of even more bewildering complexity. Professor Leslie Banks of Cambridge, for example, has been studying the provision of visiting nurse and almoner services in one English county and has found some twenty organizations concerned only with this limited segment of health service. A recent study of health services in Italy gave a picture so appallingly complex that it would probably require a major revision of the entire structure of government and half the nation's social institutions to systematize it. Even in cultures emerging somewhat recently into welfare consciousness, such as El Salvador and Ceylon, which I have had the opportunity to study, one finds amazing complexities.

VI

What is the relevance of all this to social science? The point is that each new form of organized health activity develops in conformity with two factors: a particular social situation and a body of technical knowledge available at the time. Both these factors are highly changeable. A few years after a specific pattern has developed, the techniques or the social setting or more often both these variables change. The pattern of health organization, however, usually persists. It may continue to be useful, but obviously not so useful as it could be if it were adjusted, with perfect flexibility, to the changed facts. It is the challenge of the public health administrator to recognize these changes and to attempt to adjust health service organization to them. The health administrator may understand the new techniques perfectly well, but the adjustment to the social milieu calls for the skills of social science. The sociologist can advise, in other words, how an innovation can be best applied. A few specific examples may be cited.

Organized health services for industrial workers had their origin in the early nineteenth century reactions to squalid conditions in the factories, which gave rise to factory inspection acts. Factory inspection was concerned with working hours, the labor of children and women, and general conditions of work, as well as the specific hazards of occupational disease and accident. Naturally, it came to be a governmental responsibility of ministries of labor,

devoted to the general welfare of working people. Workmen's compensation laws created additional stimuli for safe production methods and the provision of emergency medical services in the plant. (William Ogburn, incidentally, used the development of workmen's compensation as one of the cases from which he developed his theory of cultural lag (5).) In time, the health conditions in industry have improved to the point that occupational accidents and disease constitute only a minor aspect of the worker's health problem—causing barely 5 per cent of disability absenteeism in economically advanced countries. Governmental supervision over the health of workers in Western European countries, however, remains in ministries of labor and is largely confined to the prevention of accidents and industrial poisonings. Ministries of health, concerned with the total health of workers as well as others, do little, if anything, within the factory walls.

Hospitals, to take another example, started as places for the sick poor, or for slaves or soldiers. It was centuries before they became the place of choice for the treatment of serious illness. Even when they did, they became established as isolated institutions to serve particular communities. As medical science has developed and the cost of good services has increased, it has become recognized that such autonomous institutions cannot render the best service. With improvements in transportation, the concept of regional networks of hospital services has developed. Systems of hospital ownership, control, and administration, however, do not easily lend themselves to this solution, nor do patterns of political organization. Meanwhile, medical notions of the importance of rest in a hospital bed change and great attention is given to "home care," with extension of the hospital's technical services out to the people. The brick and mortar and the by-laws stand, but the functions change and the social needs even more.

Health insurance societies tell a similar story. Starting as collective efforts to ease the economic blow of sickness, they have grown into organizations controlling in many countries nearly the whole financial side of medicine. They grew up at a time when private solo medical practice was best fitted to the available knowledge and community needs. Since then, techniques have so changed that this pattern no longer meets all the requirements of science. In most countries, however, outside the hospital there has been little adaptation or reorganization of this early pattern of medical service, so that in effect vast expenditures are made on an inefficient framework. Scores of independent insurance societies negotiate with private practitioners of medicine on financial questions, little if any concern being directed to the quality of the service, its preventive content, or over-all administrative economies. The insurance device remains valuable as a way to spread the high costs of medical care and reduce economic barriers to the patient at the time of sickness. The challenge, however, is to adjust the patterns of medical service organization to the potentialities of science, so that the benefits of collective financing will be fully realized. There are vested interests to be faced in the insurance societies, in the professions, and in the government. In Great Britain the problem was faced by a radical reorganization of the medical care system which still took account of the vital interests, but many problems remain in

connection with the patterns of medical and hospital practice. In other countries the need for adjustments is more serious.

The organizational problems within the classical sphere of public health are boundless. Health departments were started to fight epidemic disease, and their earliest efforts were naturally directed toward environmental sanitation, isolation of cases, and quarantine. Gradually other functions, especially for the protection of mothers and children, were added, usually with a struggle. Today in the industrialized countries the leading causes of death and disability are the chronic, degenerative diseases—especially cardiovascular disease and cancer. Most attention, however, continues to be directed toward the child, even though infant and child mortality rates have been greatly reduced. Of course this activity has permanent value, but the scope of public health function has not been widened to encompass the problems that actually loom largest in modern industrialized societies.

A dozen questions can be asked every day by the health administrator, to which the social scientist could direct attention. How can individuals, accustomed to see the doctor when they're sick, be persuaded of the value of periodic health examinations when they are well, and how can medical manpower be organized to do the job? How can physicians be attracted into rural areas, where they are desperately needed, when cultural and professional opportunities, not to mention financial inducements, are greater in the cities? How can local communities never before entrusted with responsibility, as is commonplace in recently colonial and semi-feudal countries, be expected to participate actively in the operation of a public health program?

VII

These constellations of problems may be enough to illustrate the difficulties faced by the health administrator—at least the imaginative one—by reason of new technical knowledge on the one hand and a changed social setting on the other. If the public health leader—whether at a national, provincial, or local community level—is to introduce technical innovations, he must be prepared to face a battle. As Bernard J. Stern showed in his monograph, *Society and Medical Progress*, new ideas in medicine (as, indeed, in other fields) are nearly always resisted by powerful social forces—whether the innovation be in the realm of theory like Harvey's notions about the circulation of the blood or in practical affairs like Jenner's smallpox vaccination (6). In the realm of practical social organization of health services, the resistances are likely to be even greater, for vested interests are likely to be touched more directly.

The social scientists should be better prepared than anyone else to interpret the nature of these social resistances, so that the health administrator can tackle them or negotiate with them intelligently. I say "negotiate" because we all know that new ideas can seldom be introduced in their pure, ideal form. The compromises necessary can be estimated best if the health administrator matches his judgment on how much the technique may be reasonably adjusted against the social scientist's judgment on how much the social structure may be budged. Undoubtedly, the flexibility that both factors will tolerate will

vary at different times (compare the settings of war, post-war, and peace, for example) and places (compare industrialized and rural economies).

With present knowledge, it is undoubtedly difficult to make reliable estimates of the susceptibility of a culture to change. There is a tendency among some anthropologists, however, to underestimate the rate of dynamism of society. One can read impressive descriptions of the features of a culture, its foundation of traditions, attitudes, values, etc., which give the impression that it would be hopeless to expect a new and foreign idea to "take" in that setting. The point has been made, for example, about the Ayurvedic doctors in India and how deeply fixed they are in the village culture, compared with the feeble impact of the scientific Western-trained variety of physicians. Yet, the amazing thing is how relatively quickly customs will change, if people have experience with a new practice that helps them. In only a few generations, India has absorbed tens of thousands of scientifically trained doctors, and the limiting factor in their acceptance has not been the psychological resistance of the people, but the economic capacity of the nation to support them. Every medical missionary can tell the story.

How often has it been said that ignorant peasant women insist on having their babies under a tree or in a mud-hut, and that it is useless to build maternity hospitals for them? But the fact is that modern institutions in the isolated villages of Ceylon are so overcrowded with expectant mothers that one cannot walk down the corridor, for fear of stumbling on a woman who is happy to occupy a spot on the floor, for the sake of the medical care, food, and rest she could never get in her home. Who would have predicted the reception of Indonesian villagers to the teams of men with DDT spray guns who invaded their homes in the fight against malaria? Yet after a month or two's experience with fewer mosquitoes, the demand everywhere for DDT has been so great that governments fear the reverberations if they should be unable to provide it. The same story can be told with immunizations against infectious disease or treatment of treponematoses with penicillin. Or consider the adjustment of Britain, with its deeply-rooted traditions, to the National Health Service which, overnight, placed centuries-old voluntary hospitals under government control, eliminated the cash nexus from nearly all doctor-patient relationships, and recast the structure of the nation's entire public health system.

VIII

Many efforts to introduce new health practices fail because the facts of the social setting have not been appreciated by the health administrator. As a former health officer in a rural, mining county I can report many such failures and, with the wisdom of hindsight, the reasons for them. In a sense, no effort at social change is ever a failure, if it plants the germ of an idea which years later, in some other form perhaps, yields some little fruit. But this is small comfort to the people whose needs go unmet today.

For some failures in attempted social change, the reason may be simple economics rather than cultural subtleties. A prepayment medical care plan in a Spanish-speaking village culture of the south-western United States, for

example, operated successfully for five years. The volume of medical services received by the people, including physician's services, hospitalization, nursing care, diagnostic tests, etc., rose to three or four times the previous level. Then rather abruptly the plan went downhill; the membership dropped off, the staff left, and the plan collapsed. An anthropologist studying the situation concluded that "the reasons for the failure of the cooperative boil down to one—a part of one culture was superimposed upon another without the necessary adaptation to make it suitable to and acceptable by the people for whom it was intended." Very nice in theory, but the simple fact was that this program of modern medical care depended upon about 75 per cent financial subsidy from the Federal Government. While the money was coming in, the plan flourished, the services were enthusiastically used. Everyone knew that, without subsidy, membership could not possibly be maintained on local subsistence-level incomes, and staff and facilities could not be supported. The U.S. Congress decided to stop the subsidy and the plan failed.

Since doctors are often criticized, and justly so, for professional chauvinism, perhaps one may be permitted a friendly reminder to the social scientist. Like other professionals, he has his special body of knowledge, a field in which he has a kind of intellectual monopoly. In the interest of demonstrating the importance of this field, he may sometimes aggrandize certain contributory cultural and psychological factors, as in the example cited above, and overlook obvious and larger factors which are not in his particular bailiwick, but which are decisive. One used to hear the most elegant psychoanalytic reasons offered, to take another example, for the non-cooperativeness of labor unions toward serological blood tests for syphilis on their members, but as soon as the workers have been assured that the results would have no bearing on job-holding, the opposition faded. Simple matters of economics and education are often decisive. It also pays to stick to the facts—for the significance of which the reader might consult a paper by a distinguished anthropologist in the January, 1952, issue of the *American Journal of Public Health* (7) and the comment on it in the April, 1952, issue by a sociologically trained physician (8).

IX

Despite these anxieties, public health should look to social science for help. How can the concepts that the social physician sees clearly be put across to the people? Public health physicians everywhere have an ideal goal, which has been variously expressed, but which relates essentially to some effective system of broad *local* health organization. In every local area of perhaps 20,000 or 50,000 people in the world, we see the need for a comprehensive health service system, assuring total health care—preventive and curative—to all the people. But entirely aside from financial obstacles, the attainment of this ideal is impeded by a hundred and one social, political, and professional traditions and pressures, a few of which have been mentioned. The demonstration in a lecture hall that a rationally integrated and comprehensive health service can be more economical and more qualitatively effective may be quite unimportant, so far as achieving social change is concerned.

The social scientist can help to translate the health administrator's ideal

into terms that are meaningful for the community, into concepts that meet the needs of people based on their experiences and natural motivations. Likewise he can help to translate the wishes and needs of people to the health administrator, so that his daily actions will take these fully into account. Equally valuable is the help the social scientist can give in the planning of health legislation. There has been a more or less emotional swing away from legislation as a solution to health problems in certain countries, in favor of education and voluntary community action. The latter, however, can be fostered by well-conceived legislation and can, in turn, make the operation of any law more effective. Such legislation must be based on social realities which the social scientist can best define.

One device widely used today in the effort to spread new public health ideas is the so-called "demonstration area" or "pilot project". The concept is that, if an ideal job is done in a certain area, through special funds, staff, and leadership, it will be emulated in other areas. The demonstration program may be specialized, like the control of malaria or tuberculosis, or generalized, like a comprehensive health service. Just how effective this whole tactic is, however, may be open to question. It really involves an understanding of the entire theory and practice of local government and the facts that govern relationships between one community and another—problems more in the domain of social science than of public health.

X

All this assistance expected from the social scientist by the health administrator is based on the assumption that the physician, as health administrator, is incapable of this kind of social judgment himself. At the present stage of development of medicine, this is generally true, for, while prophets of the future like René Sand and Henry Sigerist have said that medicine itself is a social science, in its present form it is still largely a biological discipline. On a world scale now and for some years to come, public health administration will have to depend on men whose training and skills are overwhelmingly concentrated on the clinical management of the individual patient, sick or well. The training and skills required for applied social science are wholly or almost wholly different.

In quite concrete terms, a social scientist should be a member of the action staff of every health service organization. At what echelon of administration he should work would depend on the resources of the country. Where they are ample, he belongs at the lowest level—on the local health staff serving perhaps 50,000 people. Where resources are more limited, he belongs at least at the level of the national health administration or its major provincial subdivisions.

Nevertheless, the very impact of social science on medicine and public health today is such that the social scientist may be eventually working himself out of a job. For medical education is coming more and more to incorporate social science within it (9). We may eventually come to a time when truly social-physicians are trained, not in any poetic sense, but as specialists trained systematically for social medicine or community health administration. Such social administrators would not engage at all in personal bedside medicine,

with all its technical demands. They would be devoted to serving the community as a whole, just as the good clinical physician serves the patient as a whole. They would organize, coordinate, administer all social programs relating to health having an impact on their community, whether the authority emanated from a Ministry of Health, of Labour, or of Social Welfare, whether the services involved cure, prevention, or rehabilitation, whether the funds were based on one tax source or another—in other words, they would be the general practitioners for community health.

In such a setting, the social scientist would play his principal role in the education of this new kind of social physician. Beyond this, he would be the consultant on difficult problems and the designer of research for the further advancement of knowledge in social medicine.

XI

Finally, one may turn to a general question that underlies everything attempted in public health, once tasks are faced at a national or especially at an international level. As suggested earlier, one continually faces the question, "What can be exported from one culture to another?" It is a tricky question and the ultimate answer, perhaps, is that any idea is exportable if one is prepared to pay the price in the use of force, coercion, or deceit, with their consequences. One can get a fish to flap on land, if one is prepared to have a dead fish after a few minutes. The real question, then, becomes: what ideas is it *desirable* to export from one culture to another? To answer this question, one must make some philosophical assumptions.

The assumptions that I would propose are simple enough, though perhaps not everyone would agree with them. They are that life is desirable; and that in nature there is only one truth. The Greeks spoke of the good, the true, and the beautiful, and these social ideals give us a key.

In the realm of truth, there are absolute values at any given time in history, and they are universally applicable. In the human animal, penicillin is more effective in the treatment of syphilis than incantations or the juice of the ginseng plant. This is true in any culture, just as it is true that babies will survive longer if they eat food which has not been contaminated with filth carried by flies. The fact is that when practices based on these truths are exported from one culture to another, they stick. It may be a delicate task to demonstrate the consequences of these truths, but when the lesson is learned, the practices hold. The truth, based on science, can be exported.

The notion that life is desirable, and thus that the defense of it is good, may be more difficult to apply. There are, indeed, many situations in which the lives of some people are regarded as unimportant if the pleasure and comfort of other people can be enhanced by their sacrifice. This may be done with all degrees of subtlety, rarely being so crude today as the annual drownings of the four virgins in Lake Coajetepeque, Central America, or the feeding of the early Christians to the lions. More often it is in terms where the cause and effect are further apart, like the question of paying higher taxes to support better child health clinics so that babies will not die. The assumption of modern public health, however, is that, whatever the degree of subtlety of cause and

effect, human life is good and hence the maximum of health is desirable. The Constitution of the World Health Organization has stated it in a form only slightly different from Jeremy Bentham's "greatest good for the greatest number", when it stipulates as the goal "the attainment by all peoples of the highest possible level of . . . physical, mental, and social well-being".

An idea is good, then, and exportable, if it promotes health for more people than was formerly the case. The calculation of this eventuality is largely a technical question which the social physician can best answer. If a system of regionalized hospital service, a program of occupational health service, or a group practice medical clinic financed on a collective basis can be demonstrated technically to foster this end, its export is desirable. The social scientist can address his skills to the best methods and proper rate of introducing these ideas into a culture, but he need have no doubts of the ultimate desirability of his objectives.

As to the beautiful, no defense can be made of its absolute character. This is the form, of which the true and the good are the substance, and its shape must differ in every culture. The social scientist can help to distinguish the elements in a health program which are in the realm of truth and goodness from those which are in the realm of beauty, preserving the former and changing the latter as ideas are exported. It may fit better into a culture's aesthetic—or, indeed, its religious—values, to prepare food in a certain way, to design health centres in a certain way, to define the dress and decorum of nurses in a certain way—but these basic health measures can be advocated and promoted for their truth and goodness, while their form is adjusted to local concepts of the artistic and the spiritual way of life.

This may all seem quite theoretical, but it is an approach that can be helpful in the delicate areas of discretion that face a health administrator in international or even national work. For many innovations are opposed as "foreign to our culture" or "not fitting in our particular community" when, in fact, they can be demonstrated to be based on truth or science and dedicated to the greater good of the people. The social scientist can help to distinguish opposition of this type, based on vested interests or narrow viewpoints, from opposition based on a sound understanding of aesthetic or spiritual elements in the culture which the innovation would unnecessarily offend. And if an idea is true and good, the social scientist allied with the health administrator can seek earnestly to advance it, confident that it will take root in spite of opposition, as has been the case with virtually all the programs of public health and social welfare which have been battled through to wide social acceptance today.

Foreign ideas are never fully accepted in a community or nation so long as they are foreign. The role of the international or other "outside" expert is only to sow seeds, which can be cultivated by the enlightened people on the spot. The most the outsider can do is to strengthen the hand of those individuals at home, who, while loyal to native concepts of beauty, are equally loyal to universal concepts of truth and goodness.

If health service organization is, indeed, a task in applied social science, the public health worker and the social scientist can work together to find practical ways of making this continuously a better world to live in.

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First Canadian Medical Care Conference

Château Frontenac, QUEBEC

MAY 31 and JUNE 1, 1954

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FORTY-SECOND ANNUAL MEETING

Canadian Public Health Association

Measles in the Canadian Arctic, 1952

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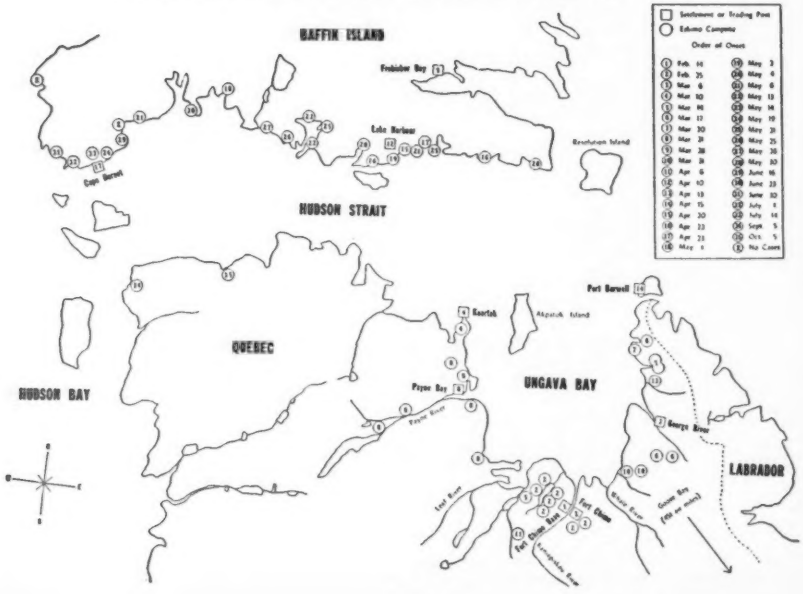
DEVASTATING epidemics of measles in modern times are not unprecedented. Severe epidemics causing high mortality rates occurred in England and Scotland in the 17th, 18th and 19th centuries and have been described by Sydenham, Willan, and Watt (1). Peter Ludwig Panum's (2) account of measles in the Faroe Islands in 1846 has long been recognized as a medical classic on the epidemiology of measles. At that time, approximately 6,000 cases occurred among the 7,782 inhabitants of the Faroe Islands (an attack rate of 75%) and 102 deaths resulted (a mortality rate of 1.3%). More recently, in 1951, Christensen and co-workers (3, 4, 5, 6) reported an unusually severe epidemic among 4,320 inhabitants of southern Greenland, with an attack rate of over 99 per cent and 77 deaths (a mortality rate of 1.7%).

The measles epidemic described in this paper occurred among the Canadian Indians and Eskimos in the Eastern Arctic during the winter and spring of 1952. It was confined to the Ungava Bay district of Northern Quebec and the south shore of Baffin Island (see map). There is no previous record of measles in these areas.

ORDER OF ONSET OF MEASLES IN ESKIMO CAMPS AND SETTLEMENTS



The epidemic consisted of two outbreaks separated geographically by Hudson Strait, but both having a common source of infection.

The Ungava Bay outbreak occurred in February, March and April, and involved approximately 900 Indians and Eskimos. Over 99% of the native population developed measles. All age groups were attacked and many complications resulted. The overall mortality rate for the Ungava epidemic was 7%.

On Baffin Island the disease was less severe, with a mortality rate of 2% of the population. It too involved a population of approximately 900 Eskimos and spread throughout the Eskimo camps along the south coast of the Island.

The attack rate was not as high as at Ungava Bay as some of the Eskimo camps were successfully quarantined and many natives received gamma globulin. Measles cases occurred in this area during April, May, June and part of July. In both outbreaks only those escaped who had previously contracted measles during short trips to more populous parts of the country.

In order to explain the circumstances under which the epidemic spread, it might be well to describe briefly the living conditions and personal habits of the Eskimos and Indians living in this part of Canada.

For the most part, the sanitary standards of these natives are extremely poor, personal hygiene is practically unknown, and members of the household are often crowded into dingy, low-ceilinged snow or wooden hovels with very little sunlight or air circulation. The Eskimo custom of sharing poorly washed eating utensils, and the passing of partly eaten food from one person to another, together with the extremely close contact in which the natives live, provided an ideal environment for the spread of measles. It is well known that these same crowded unsanitary conditions have greatly contributed to the high tuberculosis rate among these people.

When measles struck, the Eskimo were having their winter season, so that temperatures averaged well below 0° F. during February, and gradually moderated with the onset of spring and summer. This frigid wind-blown climate created much hardship on those attempting to deal with the spread of the epidemic.

When word of the outbreak reached the Indian Health Services in Ottawa, the infection was centred at Fort Chimo and had already spread widely along both sides of Ungava Bay. It was too late to establish adequate control procedures which would prevent the further spread of measles in this area. Instead, efforts were concentrated in providing the best possible medical treatment within the limitations imposed by travel difficulties. This meant that the Indian Health Services nurse and her husband, along with many volunteers from Fort Chimo and Chimo base, including the Roman Catholic and Anglican missionaries, Department of Transport radio operators, Royal Canadian Mounted Police and Hudson's Bay Company officials, were all required to treat patients in the immediate vicinity of Fort Chimo and to travel by dog team to many of the isolated camps in the area. In spite of these heroic measures, the epidemic infiltrated the district with such rapidity that many of the Eskimos were not reached in time to receive medical treatment, food and warmth.

When the second outbreak was reported on Baffin Island toward the end

of March, there appeared to be some possibility of preventing the spread of the disease farther north. The Indian Health Services dispatched a medical research team by air to Frobisher Bay, where the epidemic was well under way. Unfortunately, weather conditions would not permit the aircraft to land at Lake Harbor and Cape Dorset, where the epidemic had just started. It was therefore necessary to drop medical supplies by parachute, with instructions for their use, to the Department of National Health and Welfare nurses at these points. Instructions regarding control procedures were given by radio-telephone. Later this team proceeded to Fort Chimo and spent some time studying the Ungava Bay epidemic.

Epidemiology

Because of the complete isolation of settlements in the Arctic, and the small numbers living in these settlements, the movements of individuals into or out of the community is known to everyone. It is therefore often relatively easy to trace the spread of an epidemic in northern areas. Although there were two separate outbreaks, each having different characteristics in terms of severity and control procedures, the source of the infection in both instances could be traced to children of Air Force and various other personnel stationed at the air base at Goose Bay, Labrador. From February 1 to May 10, 1952, 41 cases of measles and 82 cases of German measles were reported among these children at Goose Bay. Sixteen children reportedly had both measles and German measles during this period.

Space will not permit a detailed description of the spread of measles at Ungava Bay, from settlement to settlement or camp to camp. That story is, in itself, a fascinating one and certainly emphasizes the communicability of measles. To summarize the chief events in the spread of this epidemic, measles was first introduced into the Ungava Bay area on February 14th, following the return of two Eskimos from Goose Bay to their home at Fort Chimo. From these two cases the infection spread like wildfire both northeast and northwest along both sides of Ungava Bay. It was an unfortunate coincidence for the natives of Ungava Bay when an Eskimo, George Kooktuk, who by chance was living with the first measles patient at Fort Chimo, decided to travel by dog team to Koartak, on the northwest tip of Ungava Bay, to visit his mother. At this time he was apparently quite well, but was incubating measles during his trip. True to Eskimo tradition, Kooktuk visited many camps en route and developed measles himself shortly after arriving at Koartak. This trip was chiefly responsible for the rapidity with which the infection spread on the west side of the Bay.

A somewhat similar chain of events accounted for the spread of measles on the east side of Ungava Bay, although fewer Eskimos were exposed at one time, which probably explains why the epidemic was more prolonged on this side of the Bay.

The map indicates the date or week of onset when one or more primary cases of measles occurred, and gives the various Eskimo camps or settlements where these first cases developed. Secondary cases also resulted at the points indicated. In studying the order of onset of the initial cases it is possible to

trace in a general way the spread of the epidemic. It will be noted that later on, in September and October, the epidemic extended to localities on the south west shore of Hudson Strait. No deaths were reported at these points.

While the epidemic was devastating the population of Ungava Bay to the south, an Eskimo who had been receiving dental treatment at Goose Bay returned to his home at Frobisher Bay on Baffin Island. He was the first to be stricken with measles at Frobisher Bay; this occurred on March 28th. From this case, a secondary case developed at Lake Harbour, 150 miles west. It was then only a matter of time before the infection spread rapidly along the south coast of Baffin Island. Unfortunately, many Eskimos had contacted the initial cases at Frobisher Bay and Lake Harbour before the disease was fully recognized, and, while they were unknowingly infected, visited other Eskimo camps.

The attack rate in both the Baffin Island and Ungava Bay outbreaks was over 99% of those exposed. This is illustrated in Chart 1, which indicates the number of Indians and Eskimos at Ungava Bay, by age, who were attacked by measles. It will be noted that a high proportion of all age groups was infected. Chart 2 gives the week of onset of measles at Ungava Bay and shows that the epidemic reached its peak during the week of March 9th. At Frobisher Bay (Chart 3) the peak occurred one month later, during the week of April 13th. Unfortunately, data are not available for the dates of onset or age distribution of all cases on Baffin Island. It is of importance to note that the weeks of onset as given in Charts 2 and 3 are only approximate, as Eskimos are not too accurate in their accounting of time.

Chart 4 shows the number of deaths (67) from measles, by age; and Chart 5, the percentage distribution of measles deaths by age during the Ungava Bay outbreak. It will be seen that cases in all age groups succumbed to measles, particularly those in the Under 1, 30–39, 40–49, and 60 and over groups.The figures in italics represent the number of deaths which occurred in each age group. Both the attack rates and mortality rates indicate that the entire population had little or no immunity to measles.

Case fatality rates at Ungava Bay varied considerably. Most of the deaths occurred on the west side of the Bay. Although the numbers were small at Leaf River East Camp, almost half of one family was wiped out. Six members of another Eskimo camp died of measles at Finger Lake. By comparison, the Baffin Island outbreak was less severe. A total of eighteen Eskimos died, resulting in an overall mortality rate of 2%.

Clinical Characteristics

Measles symptoms were in general the same in both outbreaks, although the infections and complications were much more severe at Ungava Bay, particularly among the Eskimos.

The following case history is fairly typical of the infection which occurred at Ungava Bay. The onset began with symptoms similar to a head cold, with headache, general malaise and a temperature of 99° F. Cough, sore eyes and nausea were also prominent symptoms at this stage. Within a few days these

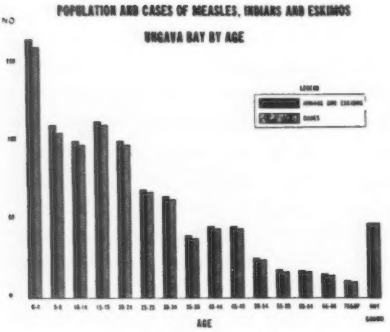


CHART I

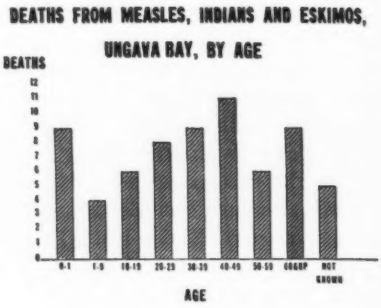


CHART IV

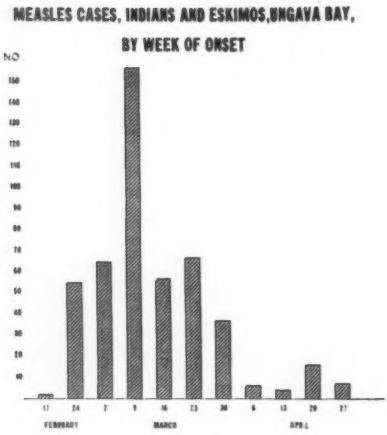


CHART II

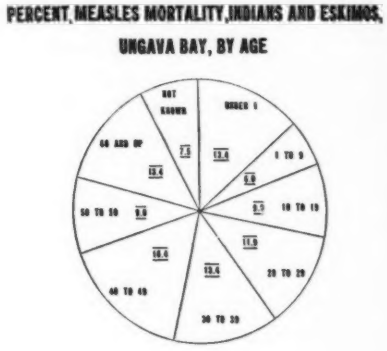


CHART V

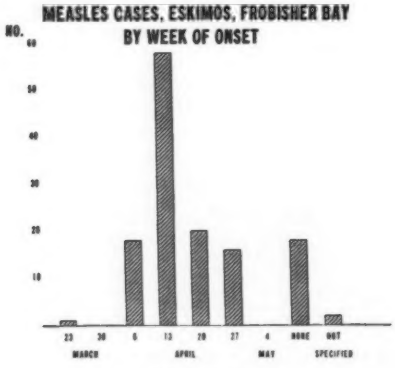


CHART III

symptoms became more intense with temperatures ranging from 102°–105°. Koplik's spots were present and the tongue was heavily coated with a red tip.

About 40% of the Eskimos complained of laryngitis and sore, swollen throat during the acute stage. This was relieved to some extent by seal oil or cod liver oil. The rash was distributed over the entire body, but was more pronounced on the anterior surface.

Usually the rash began to fade after two or three days. Some of the patients had cyanotic and oedematous faces. Vomiting was a common and often pronounced symptom. In severe cases when this continued for several days, a serious loss of body fluids resulted. Most of the Eskimos were confined to bed before the occurrence of the rash and then stayed in bed for a week or 10 days. When the entire family was disabled, there was no one to provide food and fuel. This was an important factor in the high mortality rate. A very few had mild attacks and recovered in 4 or 5 days.

Measles among the Indians also developed with general symptoms such as headaches, malaise and upper respiratory discomfort. Temperatures varied between 102 and 105° F., vomiting and nausea were common, and many had sore mouths with white spots on the tongue and tonsils. Sore throats and sore eyes were also common before the rash. Although the rash occurred in both adults and children, little or no desquamation was noticed. Adults had more severe rashes than the children, often with oedema. Vomiting was confined almost entirely to the age group over 15. In one case, the face and arms and legs were very swollen and pitting oedema could be demonstrated.

Complications

Approximately 20% of the natives in the Fort Chimo area developed signs and symptoms of pneumonia and complained of dyspnoea and chest pain, sometimes with cyanosis. Cough with expectoration of thick yellow and blood-specked sputum was common. Nose bleeds and congested throats were also prevalent. Pneumonia and laryngitis were more common among the adult population.

The eyes were inflamed and swollen in approximately 10 to 12 persons in the vicinity of Fort Chimo. These symptoms occurred both in well-lighted and dark living quarters. In some cases the eyes appeared to be ulcerated. In other instances pustular infections and sore eyes persisted following recovery from measles.

Other complications consisted of loose teeth and bleeding gums, as well as white patches in the mouth and throat and foul-smelling breath. This was confined mostly to young children and often persisted for 2 or 3 weeks following the measles. This condition responded well to vitamins, penicillin and peroxide. Haematuria and oliguria occurred two to three weeks following the infection among 2 Indians and 4 Eskimos in the Fort Chimo area. A number of abortions also resulted among Indian and Eskimo women.

The Eskimos on the eastern shore of Ungava Bay had less severe complications than those at Fort Chimo and on the western shore. Here complications consisted chiefly of otitis media and purulent conjunctivitis with temporary

or permanent unilateral or bilateral deafness. These cases responded well to penicillin and aureomycin. Sore throat and laryngitis were not common.

On Baffin Island complications were few, possibly owing to some extent to better medical care which resulted from the increased supply of antibiotics and gamma globulin, and some forewarning of the epidemic. Pneumonia, otitis media, and purulent conjunctivitis developed in some cases.

Laboratory Investigation

Because of the nature of the disease the scope of the laboratory investigation was limited. It was the objective of the research team to determine whether some intercurrent or associated infection, such as influenza, had been prevalent prior to or in conjunction with the measles outbreak.

A number (61) of bloods were drawn from the Eskimos on Baffin Island, and from 93 Indians and Eskimos at Fort Chimo (Ungava Bay). Sera (17) from Royal Canadian Air Force personnel at Goose Bay were also collected. These various sera were examined for haemagglutination and complement-fixing antibodies against the common influenza virus types.

Titres of 40 or over for haemagglutination antibodies and 4 or over for complement-fixing antibodies were considered significant.

The results of the laboratory investigation indicated that a high proportion of Air Force personnel as well as Indians and Eskimos from Ungava Bay showed significant haemagglutination antibody titres to all types of influenza virus tested. Although the Baffin Island Eskimos also had significant levels of haemagglutination antibodies to F M I (A-prime) and Lee (B) types, they had practically none to the PR_8 (A) type.

As these antibodies are usually demonstrable in the blood serum for many months, the significant haemagglutination antibody levels would merely indicate that the persons tested had experienced influenza infection previously.

The complement-fixing antibodies are more indicative of a recent infection. As a relatively high percentage of individuals at Goose Bay (53%) and Fort Chimo (20%) were found to have significant complement-fixing antibody levels to influenza virus Type B (Lee), one might justifiably conclude that these individuals may have suffered from a recent infection of Influenza B. Less than 2% of the Fort Chimo population possessed complement-fixing antibodies to Influenza virus Type A. Whether or not Influenza B was superimposed on the measles infection in these areas is, of course, not known. However, this possibility is supported somewhat by the knowledge that the white personnel stationed at Chimo Base and Fort Chimo suffered from an "influenza-like" illness the week of February 10, about the same time as measles was introduced into the area.

The Baffin Island Eskimos, on the other hand, had low or undemonstrable complement-fixing antibody levels to both Influenza A and B viruses. This fairly well eliminates the likelihood that Influenza B was prevalent at the same time as measles occurred in that area.

The question in the minds of the investigators was whether Influenza B or another infection occurred concurrently with measles, and contributed to the very high mortality rate in the Ungava Bay area.

Treatment and Control Procedures

As indicated above, the outbreak around Ungava Bay had spread beyond practical control measures by the time the news of the epidemic could be transmitted to the Indian Health Services at Ottawa. Emphasis, therefore, was placed on the distribution of medical supplies, food and fuel to the many Indians and Eskimos who were sick. Hundreds of doses of sulfathiazole, penicillin and aureomycin were used, sometimes in combination if adequate supplies were available. Cough mixture, cod liver oil and aspirin were also given as symptomatic treatment. Disposable penicillin syringes were found particularly convenient, as these could be used by volunteer assistants who travelled by dog team to isolated Eskimo camps. The Eskimos themselves used the disposable penicillin syringes in some cases. It is believed that antibiotics were chiefly responsible for saving many natives who otherwise might have died.

Vomiting was a common symptom in many cases, and Gravol (Dramamine) was found to be a useful drug in the treatment of this distressing and prostrating condition. Good nursing care, which under such difficult conditions usually meant the provision of food and enough seal oil or kerosene to prevent freezing, was another important factor in saving native lives. For the most part, primitive people such as these are quite fatalistic in their attitude toward life and when ill often turn their faces to the wall and wait to die. So it was in this epidemic, where in some isolated camps families were almost or completely wiped out by measles.

On Baffin Island the outbreak was just getting under way when the Research Team arrived at Frobisher Bay. Many Eskimos had been exposed and were in the incubation stage. As the ice was beginning to break up in many places and snow was soft, it was impossible to land an aircraft at Lake Harbour or Cape Dorset. It was, therefore, necessary to drop medical supplies, including a limited quantity of gamma globulin, to the National Health and Welfare Nurses stationed at these points. Instructions were also dropped for the use of gamma globulin.

Contacts of measles cases, in various stages of incubation, were given attenuating doses of gamma globulin as follows: one 2 cc. ampoule for small children under 50 lbs., usually under 10 years, and two 2 cc. ampoules for older children and adults over 50 lbs. The shortcomings of this arbitrary method of administration and the small doses were recognized. However, in these circumstances, where instructions had to be given by radio or dropped by parachute, and when supplies were limited, it was necessary to make the limited amount of globulin as widely available as possible. It might be noted that Eskimo people are usually smaller in size and weight than average Canadians. The use of gamma globulin in these circumstances is hard to evaluate, but according to the observations of the nurse at Cape Dorset thirty-nine per cent of those who received gamma globulin had modified attacks of the disease. It is also worthy of note that gamma globulin was given to contacts regardless of the interval between exposure and onset of disease. Although some patients not receiving gamma globulin also had mild attacks, it is felt that the globulin may have helped some. No patient who had received gamma globulin died. (See Table I.)

TABLE I
EFFECT OF GAMMA GLOBULIN ON MEASLES CASES, CAPE DORSET (BAFFIN ISLAND), BY AGE

Age Groups	Total Cases	Modified	Not Modified	Per cent Modified
Under 1	12	6	6	50.0
1– 4	32	10	22	31.2
5– 9	44	20	24	45.4
10–14	38	13	25	34.2
15–19	16	7	9	43.7
20–24	27	14	13	51.8
25–29	21	8	13	38.0
30–34	24	8	16	33.3
35–39	11	4	7	36.3
40–44	12	6	6	50.0
45–49	7	2	5	27.5
50–54	5	0	5	—
55–59	4	2	2	50.0
60–64	11	4	7	36.3
65–69	3	0	3	—
70+	2	1	1	50.0
TOTAL	269	105	164	39.0

As a further control measure, instructions were immediately dispatched to R.C.M.P. and other officials at all settlements on Baffin Island, placing the area under quarantine. The doctor at Pangnirtung to the north was notified of the situation and a supply of gamma globulin dropped to him. All travel from Eskimo camps to other camps or settlements was prohibited. These restrictions when enforced had some effect, as no case of measles developed in two camps near Cape Dorset. However, the natural isolation of northern settlements probably was the chief factor in preventing the spread of the infection farther north.

DISCUSSION

In reviewing the chief features of this epidemic, one is immediately impressed by the rapidity with which the epidemic spread and the attack rate of over 99% which included all age groups. The high mortality rates of 7% at Ungava Bay and 2% at Baffin Island are unprecedented in modern times. Panum in 1846, when describing his experience in the Faroe Islands, reported an attack rate of 75% and a mortality rate of 1.3%. More recently, in 1951, Christensen and co-workers reported an epidemic on the south of Greenland with an attack rate of 99% and a death rate of 1.7%.

There would appear to be little doubt that the rapidity with which the infection spread was enhanced by the susceptibility of the virgin native population. This supposition might be further supported by the observation that incubation periods appeared to be somewhat shorter (7–10 days) than usual. The lack of warning in the Ungava Bay outbreak and the overwhelming number of isolated cases which required medical treatment were probably the most important factors which contributed to the high mortality rate in this area. Sub-zero temperatures, primitive means of travel and the isolation of Eskimo camps, made medical treatment difficult, with the result that many patients died before medical aid could reach them. The relative lack of food and warmth also contributed to the excessive mortality rates. Whether or not Influenza B was a concurrent infection with measles and contributed to the high mortality rate is not known. Laboratory evidence merely suggests that Influenza B was in the area during the same winter period.

When the Baffin Island outbreak occurred, medical authorities had some advance warning and were able to deal with the infection in its early stages. This resulted in better organized medical treatment, modified attacks due to gamma globulin, and fewer complications and deaths. Another interesting feature of the Baffin Island outbreak was that in the months following the measles outbreak, epidemics of what were reported to be scarlet fever and mumps spread throughout the same population in quick succession. These were mild in nature and no mortality was reported.

When one considers the extensive travel that has taken place into the Northland for the past several years, one is amazed that the Indians and Eskimos in Canada's Eastern Arctic missed contracting measles previously.

Summary

An extensive and disastrous measles epidemic occurred in the spring of 1952 and involved approximately 1,800 Indians and Eskimos throughout several hundred square miles of Canada's Eastern Arctic.

Two well-defined outbreaks occurred, one in the Ungava Bay district of northern Quebec, and the other along the south coast of Baffin Island. Both had an attack rate of over 99%, including all ages. The infection was more severe at Ungava Bay, where the mortality rate was 7%. The Baffin Island Eskimos experienced a lower rate of 2%.

The rapid spread of the infection, and the inability of those available to provide medical treatment, food and warmth for hundreds of sick Indians and Eskimos in isolated camps, was largely responsible for the high mortality rates. Rugged terrain, long distances between camps, primitive means of travel and rigorous weather conditions, all added to the difficulty of providing medical care to large numbers of natives, many of whom required attention at the same time.

Some evidence is presented which suggests that Influenza B or some other concurrent infection may have contributed to the high mortality rate at Ungava Bay.

Gamma globulin was administered to 269 Eskimos in the Cape Dorset area and probably contributed to the lower mortality rate on Baffin Island.

Antibiotics such as penicillin and aureomycin were used by nurses as well as by untrained personnel and saved many lives.

As settlements and camps in the Arctic are to a large extent isolated by many miles of sea or difficult terrain, and as travel is limited, these natural barriers play a large part in limiting the spread of communicable diseases in these areas.

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Letter from Great Britain

General Practice in Great Britain, 1954

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The Service Provided

IT is some time since I wrote to you about the general practitioner (April, 1949). The Executive Council is the local body with whom the general practitioner is in contract. It is the lineal descendant of the Insurance Committee which, since the 1911 Insurance Act, operated over the same areas (Counties and County Boroughs). The Insurance Committees covered 50% of the population and the final income limit for benefit was £420 a year. The Executive Councils give medical care to all. No one is allowed to enter the country with the express purpose of obtaining free treatment; they come just the same. The "insurance right" of National Health Insurance was by private insurance with contributions fixed by law, as, for example, during large-scale unemployment in 1931. Title to service under the National Health Service Act does not depend upon insurance. All workers are covered, whether living temporarily or permanently in this country, and no one can "cease to be insured" as regards the right to obtain medical treatment. The range of service which previously extended beyond general medical care only when funds permitted this, and then to a limited extent, is now much greater. It includes pharmacy, domiciliary midwifery, dentistry, ophthalmic care, and appliances of some types.

The service, originally free, has since been modified with charges for prescription (one shilling), trusses, elastic hosiery and spectacles, and, except for those under 21 years and for expectant and nursing mothers, some payment for dental services (£1 maximum charge for treatment other than dentures; £4-5-0 maximum charge for dentures).

The country has been divided into three types of area: (*a*) those in which any doctor may start a new practice after application without let or hindrance (designated), (*b*) those in which the right to begin a new practice is considered on its merits (intermediate), and (*c*) those in which all applications are automatically refused (restricted). Applications to begin new practices and to fill vacancies must be made to the Executive Council. A central committee in

London, the Medical Practices Committee, makes the final decision and appointment, though unsuccessful candidates have a right to appeal to the Minister.

The general practitioner is responsible for patients whom he has agreed to take on his list, and any others assigned to him or temporary residents in the area, and also for emergency treatment. There is no restriction on his prescribing. He has been asked to avoid advertised medicines and preparations listed by the Sir Henry Cohen Committee (H.M.S.O. 1950). He is free to undertake all proper and necessary treatment, according to the customs of the area, including midwifery. He can treat patients privately so long as they are not on his list or that of his partner, and can also charge for certificates and reports of one kind and another required by other statutory bodies, and for a report not connected directly with treatment.

We are only now beginning to understand what sort of work the general practitioner does. According to Maurice Backett and others (B.M.J., Jan. 16, 1954), a medium-sized practice in the North West of London undertook 100 consultations a week for every 1000 registered persons. Half the work was centred in 16% and one-fifth in 4% of the practice population. Acute infection accounted for 43% of the work, a proportion not unlike that revealed by an analysis by the Ministry of National Insurance of the certificates of incapacity for work (see later).

Administration

The administration of the general practitioner service is conducted by a division of the Ministry of Health, with responsibility resting in an undersecretary (1 of 5), who is responsible to Sir John Hawton, the permanent secretary. Medical advice at the centre is the responsibility of the Chief Medical Officer (Sir John Charles) and is organized in divisions headed by Principal Medical Officers. Dr. Raymond Ford is Principal Medical Officer for the general practitioner service. Technical advice is also obtained through the Central Health Services Council, a statutory council of 41 persons, established under the National Health Service Act, which has set up a General Practice Committee.

The Executive Council, which appears little interested in policy, acts at the periphery, largely as an instrument of the central government. Much of the governance is by means of "Executive Council letters" in which points of detail are discussed. In this respect the Executive Council is in contrast with the Regional Hospital Board and to an even greater extent with the local health authorities. Annual meetings of the Executive Councils act as an inspired platform for the Minister of Health. Here he expounds policy, as recently at the Torquay meeting when the hope was expressed that the Executive Councils would widen their functions.

There are regional offices of the Ministry of Health, which employ about 40 full-time medical officers and 250 part-time referees mainly to cope with the reference work, i.e. the reference of cases by local offices of the Ministry of Pensions and National Insurance when the doctor is giving certification of incapacity for work and a second opinion on this point seems called for. This

reference work provides the only adequate check upon claims, including, for example, claims for higher rate of benefit for accidents at work, or "prescribed" industrial disease, sickness claims that are unduly prolonged, and the date from which pregnancy claims should expect to take place. Upon reference about 40% of the patients return to work without waiting examination, and of those examined about a quarter are marked fit for work. Workers can appeal to an "Appeals Tribunal" consisting of three lay persons (a lawyer, a trades unionist, and an employer) in each region. For claims in reference to sickness there is a further appeal to a commissioner appointed by the Crown whose decision is final. In the case of accidents the degree of disability after a period of six months is considered by a "Medical Board" and there is a right to appeal from their decision to a "Medical Appeal Tribunal" (consisting of a lawyer and two consultants). Thus democracy is well, if not extravagantly, served. The rather top-heavy committee machinery for determining the right to benefit under national insurance contrasts with the largely office jurisdiction of the work relating to war pensioners.

Complaints against the service have been surprisingly small in number. These are first heard by a Medical Committee of the Executive Council. The findings, if approved by the Executive Council itself, are referred to the Ministry where, in the event of an appeal by the practitioner, they are reviewed by a committee consisting of a barrister, a principal medical officer of the Ministry of Health, and a general practitioner. Where any doctor is found guilty, for example, of non-attendance or negligence, the case is considered by a further committee consisting of the Chief Medical Officer and two medical officers of the Ministry and three general practitioners in active practice taken in rota from a list. This committee hears about thirty cases a year.

Distribution and Grouping of Practice

Two characteristics which greatly affect the proper conduct of medical care are the uneven distribution and insufficient grouping of doctors. One welcome consequence of the National Health Service has been a gradual improvement in both distribution and grouping. The fourth report of the Medical Practices Committee (March 1953) showed a decline of 10% in the number of practitioners in areas where the ratio of doctors to patients was highest and a corresponding increase of 11% in under-developed areas. Districts in which general practitioners have an average of more than 4,000 patients were becoming rare in 1952 and may well (even in Lancashire) have now disappeared. Redistribution and grouping have been affected by the Dankwerts Award (1952). This has restricted the general practitioner's list to a maximum of 3,500 and "loaded the capitation fee"; up to 500 and in excess of 1,500, 17s.; for those between 500 and 1,500, 27s. The additional payment is limited to doctors in single practice or partnership. It is not paid for patients under the care of an assistant. The effect has thus been to reduce the size of practices and to increase the number of partnerships.

The purpose of section 21 of the Act was to bring about group practice in Health Centres associated with health clinics and health education. It is

probably no exaggeration to say that this device has virtually failed. Health Centres have so far been established only at Corby in Northamptonshire, at Harlow in Essex (under the auspices of the Nuffield Provincial Hospitals Trust and neither complete in the service of health clinics); at Woodbury Down (Stoke Newington, London), Bristol, Edinburgh, and Nottingham (by the Local Health Authorities). A statement by the special committee of the Central Health Services Council (Messer Committee) about the use of Health Centres was given in my letter of July, 1952. The recent report of the William Budd Centre at Bristol, opened September 16, 1952 (B.M.J., February 13, 1954), suggests than many of the idealogical conceptions of the Health Centre protagonists have been fulfilled in practice; particularly the knitting together of diverse interests in community health. The medical profession has, however, yet to be convinced of the value of this step. This may take a long time. John Pringle, Public Health Relations Officer of the B.M.A., said recently over the air (January 29th), "The medical profession has always been slightly cautious about the wholesale setting up of Health Centres, especially in view of the enormous cost to the nation, and they have rightly insisted on experiments first."

Meanwhile there is much happening to favour group practice independently of health centres. Group practice has been defined by the General Practices Committee of the Central Health Services Council as follows: "Group practice is carried on by several general practitioners working together in close association, consulting one another about the patients, and doing their 'surgery work' in whole or in part in a common building controlled by the doctors. All members of a 'group' should work in the common surgery premises even if on occasions they also work at separate branch surgeries. A group practice should employ ancillary help to the extent of one or more persons who can provide services of the secretarial, nursing receptionist, or almoner type. Normally a group should consist of three, four, five, or six principals. Larger numbers tend to diminish the value of group association. The group may or may not be a partnership, but, if not, there must be a proper understanding between the members of a group on the sharing of the earnings of the group and particularly as to the sharing of expenses." The Ministry of Health (E.C.L. 3/54) has decided to encourage the extension of this operation by giving financial aid by means of interest-free loans. £100,000 annually is being set aside from a central pool, from which general practitioners are paid, to help with the new buildings on land already owned by one or more members, or on land which may have to be acquired for the purpose, and for the acquisition of existing buildings and their conversion into surgery premises, or for the conversion of a building already owned by members of the group. Applications have to be made to the Executive Council and decisions rest with a Group Practices Loan Committee composed of representatives of the medical profession and the Ministry of Health.

Trainee Practitioners

A feature of the general practice service is the "trainee practitioners scheme". This twelve-months' course has acted since the appointed day, in perhaps a

somewhat limited manner, as an experiment in apprenticeship. During 1953 in England and Wales there were, at any one time, between 57 and 75 trainees. A number of criteria are laid down by the Ministry of Health. Trainees must not have been in general practice in the British Isles. Since the main object is to train in general practice, selection of the trainee by the Local Medical Committee (supplemented by two University representatives) must exclude any who are in need of an assistant or partner. The trainer must be willing to teach and have the time to do so. He is required to have not less than 2,000 on his list (or 1,500 in a rural area), and cannot increase his list beyond 3,500 in respect of the assistant for whom grant aid is paid. He should have been in practice ten years and be not over 65 years of age. The grant aid to the trainer (£150 a year) is for educational purposes only and is in addition to a sum of up to £700 per annum for the trainee salary and up to £150 for car expenses. It is considered undesirable that any trainee should be appointed "with a view to partnership". This scheme can be seen as the counterpart of the pre-registration year's supervised experience of treating patients in hospital, made obligatory by the Medical Act 1950.

The trainee scheme has been reported upon favourably by the General Medical Services Committee of the British Medical Association, which has said that it is convinced "of the value to the young doctor of an appointment of this nature under conditions which have been specifically designed to permit him to begin to learn something of the art of treating patients in their own homes. . . . " On the other hand, the Post-graduate Dean of the Manchester School (R. L. Newell, M.D.(Manchester), F.R.C.S.) has said that he considers the scheme to be bad and to have failed. He is not satisfied that good practitioners are applying to act as trainers. The young graduate with full training supplemented by a year's pre-registration house posts and two years' service in the army should, in his view, avoid another year with no prospect. The young graduate should apply for an assistantship in a good firm. Would it not be better to include a 3-months' course in general practice in the under-graduate training, or as part of the pre-registration year? This latter is now impossible under the G.M.C. rules. From the point of view of the conscientious trainer, there are many disadvantages, as, for example, that visits and surgeries take much longer. In Oldham and Stockport and, no doubt, other Executive Council areas in the North-West, and elsewhere, the scheme has been discontinued. We will need to await further experience before making a final judgement.

Certification and Sickness

An event of unusual significance has taken place recently in the analysis of the incapacity certificates issued by doctors for the year 1950. This has been made possible by the National Insurance Scheme and the enormous capacity of the statistical machine which this scheme necessitates. The population at risk is estimated at rather over 20 million men and women, covering, with few exceptions, the whole of the working population. During 1950 in Great Britain there were 7,300,200 new claims to sickness benefit. Rather over one-third of the spells of certified incapacity due to sickness arose

out of infections of the upper respiratory tract (2,435,000 spells, totalling 41.26 million days). Arthritis and rheumatism (except rheumatic fever) caused 580,000 spells totalling 15.67 million days; diseases of the stomach and duodenum (excluding cancer) caused 436,000 spells totalling 12.97 million days; psychoneuroses and psychoses caused 206,000 spells totalling 9.79 million days; tuberculosis of the respiratory system caused 29,000 spells totalling 8.04 million days; infections of the skin caused 369,000 spells totalling 5.24 million days. There were 818,300 claims for injury benefit (i.e., accidents and prescribed diseases) received in 1950.

This magnificent achievement is unique in its completeness. It presents for the first time a picture of sickness for all the working members of the community, but it is much more than an interesting statistical exercise. This and subsequent analyses must provide the knowledge upon which the insurance fund can itself remain solvent. One of the pillars upon which Lord Beveridge founded his proposals for social security was that of preventive medicine. He made it plain that the insurance fund must be protected through the prevention of sickness. Now that the insurance fund is for the first time running into the red, the fundamental relationship of preventive medicine and national insurance against sickness and injury gains fresh significance. Since the operations of preventive medicine must be soundly based upon a knowledge of epidemiology, the study of where and how disease is occurring, it follows that the present statistical review should be regarded as the first of many which will allow us to pin-point sickness and apply measures of relief for the community health.

The Future of General Practice

On November 19, 1952, rather more than a century after it was first suggested, "The College of General Practitioners" was founded. The first annual report has recently appeared. This is a venture of considerable moment to the development of general practice. One of the chief reasons given, perhaps a little surprisingly, in view of the ideals of the National Health Service Act, was "the real danger of practitioners becoming academically isolated and of the standards and traditions of good general practice being lost." It is as yet too early to say what the College will achieve, but it is perhaps symbolic of a national determination to maintain and develop general practice.

We need more of the painstaking studies of general practice recently undertaken by Maurice Backett and others (B.M.J., January 13, 1954) before we can truly understand what this great social service stands for. Those who now look forward to the opening of the Manchester Health Centre on April 5, 1954, the first to be used for the teaching of medical students, hope that it will be able to add something to this fascinating facet of our national life.

An Apparatus for Demonstration and Evaluation of Biological Protein Materials

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FILTER paper electrophoresis (F.P.E.) enables a convenient separation of protein mixtures. This method as well as the continuous F.P.E. was used in this laboratory for studies of purification of diphtheria toxoid (1, 2). However, the demonstration and quantitative evaluation of resulting fractions is tedious by both of the conventional methods in use, namely elution (3) and the direct photometry method (4). An apparatus was devised in order to record and evaluate the components or resulting fractions in a minimum of time. This paper is concerned with preliminary results.

The F.P.E. is carried out in a moist chamber of our own design (5) in an acetic acid-sodium barbital buffer (6) (ionic strength 0.045, pH = 8.5) at 300V and at room temperature. After completion of electrophoresis, the strips are dried at 80–90° C. and stained with azocarmine B (7). The components are present on the paper strip in the form of bands. After staining, the strip is cut (20 cm. × 4 cm.) and fastened to a metal drum in the evaluating machine.* The drum is set in motion and a narrow beam of light is thrown on the paper. The reflected light is focused by means of a lens on to a photomultiplier cell (RCA-931A); the resulting current is fed through a D.C. amplifier and a synchronization device into an oscilloscope. The distribution curves of the stained components which then appear on the picture tube are similar to those obtained by conventional electrophoresis. At present these curves are photographed and evaluated with the aid of a planimeter. The development of an electronic computer which automatically evaluates the areas under the curves is in progress.

Preliminary results are presented in the form of figures.

Fig. 1. This figure shows a distribution curve of stained diphtheria toxoid (2500 Lf/ml, 0.01 ml applied) after 20 minutes of F.P.E.

Fig. 2 shows the same toxoid subjected to F.P.E. under identical conditions but to which a barrier (0.02 ml of 10% ethylene-diamine tetra-acetic acid disodium salt) was set up. When the toxoid moves into this barrier (which is practically immobile) it is precipitated. Therefore the corresponding distribution curve is much higher and narrower than in Fig. 1. The barrier itself is not represented on the figure since it is not stainable with azocarmine B.

*First presented in a seminar held in the Connaught Medical Research Laboratories on February 4, 1954.

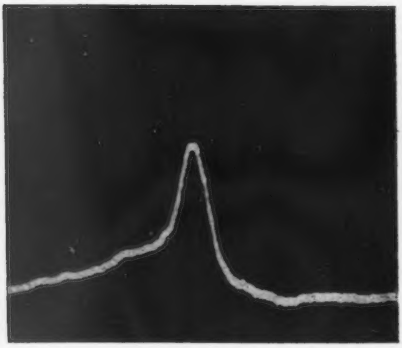

FIG.-1

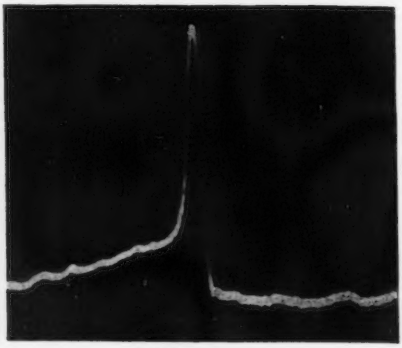

FIG.-2

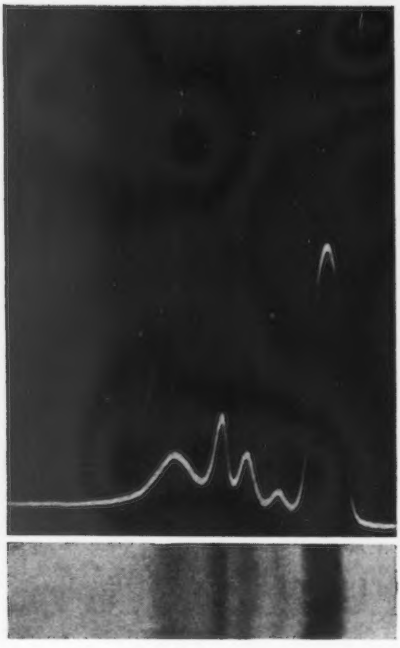

FIG.-3

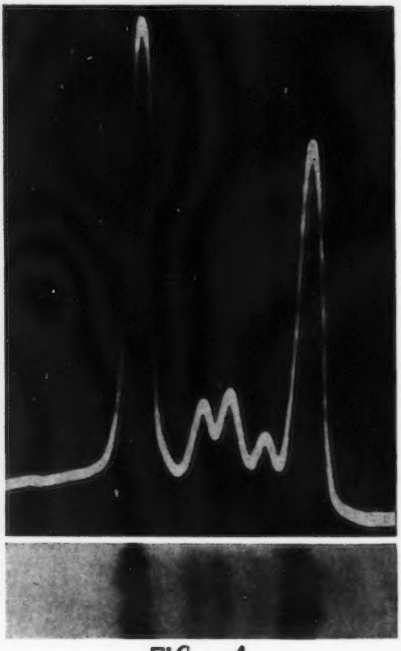

FIG.-4

In both figures (1 and 2) a gradually rising tracing can be seen which then results in the usual distribution curve. This line shows the trailing of the protein on the paper. The similarity of this pattern in both figures is apparent. The areas under both curves are practically the same.

Figs. 3 and 4 show two human sera, one from an epileptic patient and the other from a patient with gamma myeloma. The patterns obtained by F.P.E. are included under each of the corresponding curves. In Fig. 3 the components presented, reading from left to right, are gamma globulin, beta, alpha-2,

alpha-1 globulins, and albumin. In Fig. 4, from left to right, the first gamma globulin fraction is enormously increased, then follow beta, alpha-2, alpha-1 globulins and albumin at the extreme right. These patterns were stained with amido black 10B.**

Discussion

The principle of reflection of light was used by H. Röttger (8, 9) for demonstration of stained proteins. For our purpose, in order to obtain a picture, it was imperative to use a rotating drum and a specially devised pulse generator for synchronization. The reflection method is very sensitive and can be used for diluted materials where direct photometry is unreliable. Thus it was possible to obtain curves satisfactory for further evaluation even when the amount of protein was lowered to 2–5 gamma. It is possible to take 30–35 photographs of separate strips in an hour. Work is in progress to replace the evaluation of the curves from the photographs by direct evaluation on the picture tube of the oscilloscope. The use of an oscilloscope enables magnification in horizontal and vertical directions and thus even very small changes in the same type of curve can be detected, which is very valuable in comparative studies. An oscillo-tracer consisting of a double-coated lens can be substituted for the photographic camera, and curves can be directly traced from the picture tube on ruled paper with a pencil and the areas calculated by counting the squares under these curves.

Summary

An apparatus for the demonstration and evaluation of biological protein materials is briefly described, its capabilities discussed, and some results of a few applications presented.

ACKNOWLEDGMENTS

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INFECTIOUS HEPATITIS

AS STUDIES are made of the incidence and the modes of transmission of infectious hepatitis on this continent, the importance of the disease is being increasingly recognized. One of the recently published studies relates to the spread of the disease in schools and households in a rural area in Cooper County, Missouri (1). In this epidemic of 152 cases, most of the infected children attended two public schools and a parochial school. As the epidemic progressed, it became apparent that the homes and schools were the chief centres for the dissemination of infection. From all the evidence, it appeared that the disease progressed among the members of the family, particularly among children. The schools seemed to serve as the centre of infection for new family groups. Although it is generally believed that poor sanitary conditions are associated with outbreaks, particularly among children, personal contact appeared to be the method of transmission in this epidemic, since infected food, water, or milk could not have accounted for the widespread distribution of the disease. It is of interest that 10 per cent of the children who did not exhibit jaundice showed physical and laboratory evidence of hepatitis.

Published reports concerning epidemics in New York City in 1948 (2) and in Tama, Iowa, in 1946 (3), recorded somewhat similar findings, with high family-contact rates.

The cause of infectious hepatitis is believed to be a virus. The virus has not been isolated, since a susceptible laboratory animal has not been found and culture methods have failed. Combined epidemiological and laboratory studies are being undertaken in many institutions. Information relating to the occurrence of outbreaks will be greatly appreciated by Dr. C. E. van Rooyen, who is directing research in this field in the Connaught Medical Research Laboratories, University of Toronto. In several outbreaks that have been studied, lack of sanitary facilities and the use of polluted drinking water have been common factors. The investigation of a single case of hepatitis in a school child may lead to the finding of a number of other cases, in the school

and particularly in families. The study in Cooper County, Missouri, indicates the high secondary attack rate in families and the possibility of protecting exposed children through the use of gamma globulin.

Since the disease extends over a period of months and the risk of infection is greatest in homes which have a case of the disease, prophylactic measures merit trial. There is a delay of three or four weeks after the first case appears in a family before secondary cases occur.

The value of gamma globulin in the prevention and attenuation of infectious hepatitis was shown by Stokes and Neefe (4) in 1945. During World War II, gamma globulin was used extensively for the prevention of infectious hepatitis, 0.06 to 0.12 cc. being administered per pound of body weight.

It was used extensively in the Korean war with the objective of modifying an attack of the disease, and permitting the subsequent development of immunity.

In 1951 Stokes suggested that 0.01 cc. per pound might be effective. Studies recently published by Hsia, Lonsway and Gellis (5) indicate that gamma globulin in this dosage was effective. It was given to alternate members of 40 families in each of which a sporadic case of infectious hepatitis had developed. Only one case of hepatitis occurred among 38 exposed adults and 57 exposed children who had been given gamma globulin. In comparison, secondary cases appeared in 2 of the 55 exposed adults and 11 of the 40 exposed children who were untreated controls. Further confirmation of the value of gamma globulin has been published by Ashley (6), who employed gamma globulin in doses calculated as 0.01 cc. per pound of body weight. The secondary attack rate in families which did not receive gamma globulin was 15.8 per cent, and in families protected by globulin, 0.6 per cent.

There is general agreement that gamma globulin is valuable in the control of infectious hepatitis.

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THE FORTY-SECOND ANNUAL MEETING

THE FORTY-SECOND annual meeting of the Canadian Public Health Association will be held in Quebec City on May 31st to June 2nd, in conjunction with the annual meeting of its provincial association, la Société d'Hygiène et de Médecine Préventive de la Province de Québec.

This will be the fourth occasion on which the Association has met in this historic city. The first meeting was held during the dark days of 1916, when

the thoughts of all were on the tragic events in Europe. At that time the decision was made to carry on the work of the Association, although the effect of the war was reflected in the difficult financial position. A group of members offered to meet the pressing financial obligations, and Dr. J. G. FitzGerald, as secretary, did much to help maintain the organization. In 1941 the Association again met in Quebec during war conditions. In that year invaluable leadership was given the Association by the president, Dr. Jean Grégoire, Deputy Minister of Health and Social Welfare for the Province, whose enthusiasm and interest enabled the Association to meet the difficult problems of the war years. The 1947 meeting, held in Quebec under the presidency of Dr. A. R. Foley, whose name will always be associated with the public health program of the Province, opened a post-war era of wider activity for the Association. At that meeting the Executive Council undertook to make a survey of public health services in Canada and to study public health practice across the country. The excellent work of Dr. J. H. Baillie and Miss Lyle Creelman, with the co-operation of the W. K. Kellogg Foundation, resulted in the preparation of a stimulating report, the recommendations of which are a permanent contribution to public health planning. At the 1947 meeting also, the Association decided to proceed with the establishing of provincial public health associations throughout Canada. During the intervening years this plan has been implemented, and today there are seven provincial public health associations or branches, serving the public health workers of eight Provinces.

Important decisions have, therefore, been made at each of the Quebec meetings. Members from all part of Canada have returned to their communities with a new consciousness of the value of the work in which they are engaged, and an appreciation, too, of how problems are being met by the Ministry of Health of the Province of Quebec.

On the occasion of each meeting, the hospitality of our Quebec colleagues has been most generous. Every opportunity has been afforded our members to see the many centres of historic interest and to become better acquainted with the traditions of old Quebec, including its great university, Laval. No other city in Canada has greater interest for visitors.

The forty-second annual meeting will give members of the Association an opportunity of paying tribute to Dr. Théo. J. Lafrenière. For forty-two years Dr. Lafrenière has been a member of the Provincial Ministry of Health, of which he is Chief Engineer. It is seldom that the Association has the privilege of having a public health engineer as its president, and it is most fitting that we should honour Dr. Lafrenière, not only for his accomplishments in his native province but also for his influence in other parts of Canada. His addresses and published articles have been important contributions to sanitary knowledge, and through them he has shared his experience in the development of sanitation in all its branches.

At no time in its history has the Association enjoyed a larger measure of confidence and support. The seven provincial public health associations now functioning give evidence of the vitality of the Association and its widening field of service. The forthcoming meeting in Quebec will provide an opportunity for further planning by the Association and its members.

THEO. J. LAFRENIERE, B.Sc., M.Sc., D.Sc.A., P.Eng., Chief Engineer, Ministry of Health of the Province of Quebec.

A MESSAGE FROM THE PRESIDENT OF THE CANADIAN PUBLIC HEALTH ASSOCIATION

BIENVENUE à Québec--and to the sessions of the Forty-Second Annual Meeting. To those engaged in public health across Canada, Quebec extends a special welcome. It is not known yet whether the roses will be in bloom, but Quebec hospitality will be in flower.

The program is an outstanding one. A variety of interesting presentations will be given at the two general sessions. The programs of the Sections have been limited to a maximum of three or four papers, to permit full comment and discussion. We are sure that the members will like the two meetings of the Vital and Health Statistics Section and the Public Health Education Section. Public Health Nursing has an interesting schedule, and sanitary inspectors will enjoy their day in the Sanitation Section. Dental Public Health and Public Health Administration also have good programs.

As an added interest, the First Canadian Medical Care Conference will be held in conjunction with the Forty-Second Annual Meeting. There will be a discussion of hospital and medical care plans in Canada by representatives of medical associations and other voluntary and commercial as well as government health plans.

All the meetings will be held at the Château Frontenac. The management of the hotel will be glad to receive your request for reservations as soon as possible.

Theo. J. Lafreniere

L'ASSOCIATION CANADIENNE DE SANTE PUBLIQUE
ET
LA SOCIETE D'HYGIENE ET DE MEDECINE PREVENTIVE
DE LA PROVINCE DE QUEBEC

CONGRES ANNUEL

Château Frontenac, QUEBEC

31 MAI-2 JUIN, 1954

LUNDI, LE 31 MAI 1954

8.30 a.m.—Inscription.
9.30 a.m.—Démographie.
Administration en Hygiène Publique.
Infirmières Hygiénistes.
12.30 p.m.—Déjeuner du Ministre de la Santé.
2.30 p.m.—Séance plénière.
7.00 p.m.—Conférence sur les Soins Médicaux. Séance d'Affaires.
8.15 p.m.—Réunion du Conseil Exécutif de l'Association Canadienne de Santé Publique.
8.30 p.m.—Conférence sur les Soins Médicaux.

MARDI, LE PREMIER JUIN

9.30 a.m.—Le Festival du Film.
Démographie.
Salubrité.
Administration en Hygiène Publique.
Conférence sur les Soins Médicaux.
12.30 p.m.—Déjeuner de La Société d'Hygiène et de Médecine Préventive.
2.30 p.m.—Le Festival du Film.
Enseignement de l'Hygiène.
Hygiène Dentaire.
Conférence sur les Soins Médicaux.
6.00 p.m.—Coquetel du Ministre.
7.00 p.m.—Dîner annuel de l'Association Canadienne de Santé Publique et de la Société d'Hygiène et de Médecine Préventive de la Province de Québec.

MERCREDI, LE 2 JUIN

9.30 a.m.—Séance plénière.
12.30 p.m.—Déjeuner de la Section de l'Enseignement de l'Hygiène, suivi de la Séance d'Affaires.
Autres déjeuners de sections, sur demande.
2.30 p.m.—Enseignement de l'Hygiène et Hygiène Dentaire.
Salubrité.
Administration en Hygiène Publique.
Infirmières Hygiénistes.

THE CANADIAN PUBLIC HEALTH ASSOCIATION
AND
LA SOCIETE D'HYGIENE ET DE MEDECINE PREVENTIVE
DE LA PROVINCE DE QUEBEC

ANNUAL MEETINGS

Château Frontenac, QUEBEC

MAY 31-JUNE 2, 1954

MONDAY, MAY 31

8.30 a.m.—Registration.
9.30 a.m.—Vital Statistics.
Public Health Administration.
Public Health Nursing.
12.30 p.m.—Luncheon of the Minister of Health.
2.30 p.m.—General session.
7.00 p.m.—Canadian Medical Care Conference. Business Meeting.
8.15 p.m.—Meeting of the Executive Council, Canadian Public Health Association.
8.30 p.m.—Canadian Medical Care Conference.

TUESDAY, JUNE 1

9.30 a.m.—Health Film Festival.
Vital Statistics.
Sanitation.
Public Health Administration.
Medical Care Conference.
12.30 p.m.—Luncheon of La Société d'Hygiène et de Médecine Préventive.
2.30 p.m.—Health Film Festival.
Public Health Education.
Dental Public Health.
Medical Care Conference.
6.00 p.m.—Cocktail Party given by the Minister of Health.
7.00 p.m.—Annual Dinner of the Canadian Public Health Association and La Société d'Hygiène et de Médecine Préventive de la Province de Québec.

WEDNESDAY, JUNE 2

9.30 a.m.—General Session.
12.30 p.m.—Luncheon of the Section of Public Health Education, with Business Meeting.
Other Section Luncheons, upon request.
2.30 p.m.—Public Health Education and Dental Public Health.
Sanitation.
Public Health Administration.
Public Health Nursing.

ASSOCIATION CANADIENNE DE SANTE PUBLIQUE

LUNDI, LE 31 MAI 1954, 8.30 a.m.

INSCRIPTION

Tous les délégués doivent s'inscrire. Le prix et de $2.00 pour chacun, excepté pour les épouses des membres.

Les billets pour les déjeuners et le dîner annuel doivent être pris au bureau d'inscription, au Salon Madeleine de Verchères, à l'entrée du Foyer de la Salle de Bal. Veuillez réserver vos billets en vous inscrivant.

LUNDI, 9.30 a.m.

SECTION DE LA DEMOGRAPHIE

Président: DR PAUL PARROT, D.P.H., M.P.H., Démographe, Ministère de la Santé, Québec.

1. **L'Hospitalisation: Moyen de Prévention; Paradoxe ou Réalité.**
   DR ANTONIO BOSSINOTTE, D.P.H., Directeur, Division de l'Assistance Publique, Ministère de la Santé, Québec.
2. **Quelques Facteurs Influençant l'Hospitalisation dans Certaines Localités.**
   DR F. B. ROTH, Sous-Ministre de la Santé de la Province de Saskatchewan, Regina.
3. **Records Médicaux et Statistiques Hospitalières.**
   Mlle MARJORIE RIDDELL, Présidente, Association Canadienne des Bibliothécaires de Records Médicaux, Toronto.

LUNDI, 9.30 a.m.

Président: DR CYRILLE POMERLEAU, D.P.H., Directeur Médical de l'Unité Sanitaire de Lévis, et Président de la Société d'Hygiène et de Médecine Préventive de la Province de Québec.

1. **Eclosion Familiale de Poliomyélite.**
   DR ROBERT LARUE, D.P.H., Directeur de l'Unité Sanitaire de Thetford Mines.
2. **Emploi de l'Acide Ascorbique dans la Conservation des Viandes par le Froid.**
   DIDIER DUFOUR, M.V., Inspecteur Sanitaire, Unité Sanitaire, Loretteville.
3. **Les Habitudes Alimentaires de nos Ecoliers.**
   DR ERNEST SYLVESTRE, D.P.H., M.P.H., Directeur, Division de la Nutrition, Ministère de la Santé, Québec.
4. **Mesures de Prévention dans la Manutention des Isotopes Radioactifs.**
   DR F. D. SOWBY et M. P.-M. BIRD, Division de l'Hygiène Professionnelle, Ministère de la Santé Nationale et du Bien-Etre Social, Ottawa.

LUNDI, 9.30 a.m.

SECTION DES INFIRMIERES HYGIENISTES

Présidente: Mlle BRIGITTE LALIBERTE, I.L., M.A., Infirmière en chef, Service de Santé, Montréal.

1. **Assemblée d'affaires.**
2. **Symposium: "Sommes-nous appréciées? Nos relations extérieures."**
   Participantes:
   Mlle MILDRED I. WALKER, I.L., M.A., Consultante senior, Division de l'Hygiène Industrielle, Département de la Santé Nationale et du Bien-Etre Social, Ottawa.
   Mlle RITA DOYON, I.L., B.Sc., Service de Santé, Montréal.
   Mlle MARGARET McINTOSH, I.L., B.Sc., Service de Santé, Montréal.

CANADIAN PUBLIC HEALTH ASSOCIATION
PROGRAM

MONDAY, MAY 31, 1954, 8.30 a.m.

REGISTRATION

All delegates are expected to register. The fee is $2.00 for everyone, except wives of members.

Tickets for the luncheons and the annual dinner are available at the Registration Desk, Salon Madeleine de Verchères, near the Ballroom Foyer. Please buy your tickets when registering.

MONDAY, 9.30 a.m.

VITAL AND HEALTH STATISTICS SECTION

Chairman: DR. PAUL PARROT, D.P.H., M.P.H., Demographer, Ministry of Health, Quebec.

1. **Hospitalization as a Preventive Measure: A Paradox or a Truth.**
   DR. ANTONIO BOSSINOTTE, D.P.H., Director, Division of Public Charities, Ministry of Health, Quebec.
2. **Some Factors Influencing Hospitalization in Some Communities.**
   DR. F. B. ROTH, Deputy Minister of Health, Regina, Sask.
3. **Medical Records and Statistics in Hospitals.**
   MISS MARJORIE RIDDELL, President, Canadian Association of Medical Record Librarians, Toronto.

MONDAY, 9.30 a.m.

PUBLIC HEALTH ADMINISTRATION SECTION

Chairman: DR. CYRILLE POMERLEAU, D.P.H., Director of the Levis County Health Unit and President of La Société d'Hygiène et de Médecine Préventive de la Province de Québec.

1. **A Familial Outbreak of Poliomyelitis.**
   DR. ROBERT LARUE, D.P.H., Director of the County Health Unit of Thetford Mines.
2. **The Use of Ascorbic Acid in the Preservation of Meats by Cold.**
   DIDIER DUFOUR, M.V., Sanitary Inspector, County Health Unit, Loretteville.
3. **Food Habits of Our School Children.**
   DR. J. ERNEST SYLVESTRE, D.P.H., M.P.H., Director, Division of Nutrition, Ministry of Health, Quebec.
4. **Health Supervision to Ensure Safe Handling of Radioactive Isotopes.**
   DR. F. D. SOWBY and MR. P. M. BIRD, Health Radiation Section, Occupational Health Division, Department of National Health and Welfare, Ottawa.

MONDAY, 9.30 a.m.

PUBLIC HEALTH NURSING SECTION

Chairman: Miss BRIGITTE LALIBERTE, R.N., M.A., Chief Nurse, Department of Health, Montreal.

1. **Business Meeting.**
2. **Symposium: "Are You Appreciated? A Public Relations Crusade."**
   Miss MILDRED I. WALKER, R.N., M.A., Senior Consultant, Industrial Health Division, Department of National Health and Welfare, Ottawa.
   Miss RITA DOYON, R.N., B.Sc., Department of Health, Montreal.
   Miss MARGARET McINTOSH, R.N., B.Sc., Department of Health, Montreal.

LUNDI, 12.30 p.m.

ASSOCIATION CANADIENNE DE SANTE PUBLIQUE

Déjeuner

Président: M. THEO.-J. LAFRENIERE, B.Sc.A., I.C., M.Eng., Dr.Sc., Ing. Prof., Ingénieur en chef, Ministère de la Santé, Montréal, et Président de l'Association Canadienne de Santé Publique.

Invité d'Honneur: l'Honorable J. H. A. PAQUETTE, M.D., Ministre de la Santé, Québec, et Président Honoraire de l'Association Canadienne de Santé Publique.

LUNDI, 2.30 p.m.

ASSOCIATION CANADIENNE DE SANTE PUBLIQUE

Séance Plénière

Président: M. THEO.-J. LAFRENIERE, B.Sc.A., I.C., M.Eng., Dr.Sc., Ing. Prof., Ingénieur en Chef, Ministère de la Santé, Montréal, et Président de l'Association Canadienne de Santé Publique.

1. **Discours présidential.** M. LAFRENIERE.
2. **Quelques Problèmes de Santé Publique en Colombie Britannique.**
   DR G. F. AMYOT, D.P.H., Sous-Ministre, Département de la Santé et du Bien-Etre Social, Victoria, C.B.
3. **Les Objectifs Socials des Soins Médicaux.**
   ODIN W. ANDERSON, Ph.D., Directeur des Recherches, Health Information Foundation, New York.
4. **Quelques Nouveaux Aspects de l'Immunité.**
   P. J. MOLONEY, Ph.D., Assistant-Directeur, Connaught Medical Research Laboratories, Université de Toronto.

LUNDI, 7.00 p.m.

CONFERENCE SUR LES SOINS MEDICAUX

Séance d'Affaires

LUNDI, 8.15 p.m.

ASSOCIATION CANADIENNE DE SANTE PUBLIQUE

Réunion du Conseil Exécutif

LUNDI, 8.30 p.m.

CONFERENCE SUR LES SOINS MEDICAUX

(Première Séance)

Président: DR F. W. JACKSON, D.P.H., Directeur des Etudes sur l'Assurance Santé, Département de la Santé Nationale et du Bien-Etre Social, Ottawa.

1. **L'Assurance Santé Commerciale au Canada.**
   M. BRUCE R. POWER, F.S.A., Secrétaire et Actuaire, Association des Officiers d'Assurance sur la Vie du Canada, Toronto.
2. **Plans Co-opératifs d'Assurance Santé au Canada.**
   M. PAUL MEEHAN, Secrétaire-trésorier, Fédération Co-operative des Services Médicaux de l'Ontario, Toronto.
3. **L'Assurance d'Hospitalisation au Canada.** Nom à venir.

MARDI, LE PREMIER JUIN, 9.30 a.m.

ASSOCIATION CANADIENNE DE SANTE PUBLIQUE

Le Festival du Film

Chambre des Comités — Représentation Continuelle

MONDAY, 12.30 p.m.

CANADIAN PUBLIC HEALTH ASSOCIATION

Luncheon

Presiding: Mr. THEO. J. LAFRENIERE, B.Sc.A., I.C., M.Eng., Dr.Sc., P.Eng., Chief Engineer, Ministry of Health, and President of the Canadian Public Health Association.

Guest of Honour: The HON. J. H. A. PAQUETTE, M.D., Minister of Health, Quebec, and Honorary President of the Canadian Public Health Association.

MONDAY, 2.30 p.m.

CANADIAN PUBLIC HEALTH ASSOCIATION

General Session

Chairman: Mr. THEO. J. LAFRENIERE, B.Sc.A., I.C., M.Eng., Dr.Sc., P.Eng., Chief Engineer, Ministry of Health of Quebec, and President of the Canadian Public Health Association.

1. **Presidential Address.** MR. LAFRENIERE.
2. **Some Public Health Problems in British Columbia.**
   DR. G. F. AMYOT, D.P.H., Deputy Minister of Health and Provincial Health Officer, British Columbia Department of Health and Welfare, Victoria.
3. **The Social Objectives of Medical Care Plans.**
   ODIN W. ANDERSON, Ph.D., Research Director, Health Information Foundation, New York.
4. **Some New Aspects of Immunity.**
   P. J. MOLONEY, Ph.D., Assistant Director, Connaught Medical Research Laboratories, University of Toronto.

MONDAY, 7.00 p.m.

FIRST CANADIAN MEDICAL CARE CONFERENCE

Business Meeting

MONDAY, 8.15 p.m.

CANADIAN PUBLIC HEALTH ASSOCIATION

Executive Council Meeting

MONDAY, 8.30 p.m.

FIRST CANADIAN MEDICAL CARE CONFERENCE

(First Session)

Chairman: DR. F. W. JACKSON, D.P.H., Director of Health Insurance Studies, Department of National Health and Welfare, Ottawa.

1. **Commercial Health Insurance in Canada.**
   MR. BRUCE R. POWER, F.S.A., Secretary and Actuary, The Canadian Life Insurance Officers Association, Toronto.
2. **Co-Operative Health Plans in Canada.**
   MR. PAUL MEEHAN, Secretary-Treasurer, Co-Operative Medical Services Federation of Ontario, Toronto.
3. **Hospitalization Insurance in Canada.** Speaker to be announced.

TUESDAY, JUNE 1, 9.30 a.m.

CANADIAN PUBLIC HEALTH ASSOCIATION

Health Film Festival

Committee Room — Continuous Showings

MARDI, 9.30 a.m.

SECTION DE LA DEMOGRAPHIE

Président: DR PAUL PARROT, D.P.H., M.P.H., démographe, Ministère de la Santé, Québec.

1. **Changements dans les Tendances de la Population Révélés par le Recensement de 1951.**
   O.-A. LEMIEUX, Ph.D., Directeur du Recensement Canadien, Ottawa.
2. **Dévelopements Démographiques Internationaux.**
   M. FRASER HARRIS, Directeur, Division de la Santé et du Bien-Etre, Bureau Fédéral de la Statistique, Ottawa.
3. **Expérience sur les Soins et la Survie des Prématurés en Saskatchewan.**
   DR MURRAY S. ACKER, Directeur des Recherches et des Statistiques, et DR S. C. BEST, Directeur de l'Hygiène de l'Enfance, Département de la Santé de la Province de Saskatchewan, Regina.

MARDI, 9.30 a.m.

SALUBRITE

Président: M. LEOPOLD FONTAINE, B.S., B.Sc.A., Ing. Prof., Ingénieur en Chef-Adjoint, Ministère de la Santé, Québec.

1. **Dévelopement Sanitaire sur la Rivière Bersimis.**
   M. JEAN-PAUL GOURDEAU, B.Sc.A., M.S., Ing. Prof., Ingénieur-Hygiéniste, Ministère de la Santé, Québec.
2. **La Propreté dans les Restaurants.**
   DR MARC BERGERON, D.P.H., Officier Médical, et P. H. GAGNON, M.V., Inspecteur Sanitaire, Unité Sanitaire de St-Hyacinthe.
3. **Les Dangers Sanitaires de la Villégiature du Citadin.**
   M. ROMEO MONDELLO, B.Sc.A., M.S., Ing. Prof., Ingénieur en Chef et Surintendant, Division de l'Inspection Sanitaire, Service de Santé, Montréal.

MARDI, 9.30 a.m.

ADMINISTRATION EN HYGIENE PUBLIQUE

Président: DR GUSTAVE CHAREST, D.P.H., M.P.H., Epidémiologiste et Surintendant, Division des Maladies Contagieuses, Service de Santé, Montréal, et Secrétaire de la Société d'Hygiène et de Médecine Préventive de la Province de Québec.

1. **Vingt-cinq Ans de Puériculture à Lévis.**
   DR FRANCOISE LESSARD, D.P.H., Assistante-Directrice de l'Unité Sanitaire de Lévis.
2. **Rapport sur l'Emploi de la Gamma Globuline.**
   DR B. D. B. LAYTON, D.P.H., Officier Médical Principal, Services des Recherches, Département de la Santé Nationale et du Bien-Etre, Ottawa.
3. **La Pasteurisation du Lait et Les Cours de Justice au Nouveau-Brunswick.**
   DR R. D. LANDRY, D.P.H., Officier Médical de District, Moncton, N.-B.
4. **Etudes sur l'Infection Staphylococcique.**
   M. JEAN-MARC DESRANLEAU, L.S.Ch., Bactériologiste en Chef, et Mlle IRENE MARTIN, R.T., Division des Laboratoires, Ministère de la Santé, Montréal, et Dr. MAURICE ST-MARTIN, Bactériologiste, Hôtel-Dieu, Montréal.

MARDI, 9.30 a.m.

CONFERENCE SUR LES SOINS MEDICAUX

Deuxième Séance

Président: M. C. HOWARD SHILLINGTON, Directeur-Exécutif, Trans-Canada Medical Plans, Toronto.

Le Programme des Services Médicaux au Manitoba.
DR J. C. McMASTER, Directeur-Exécutif, Service Médical du Manitoba, Winnipeg.

TUESDAY, 9.30 a.m.

VITAL AND HEALTH STATISTICS SECTION

Chairman: DR. PAUL PARROT, D.P.H., M.P.H., Demographer, Ministry of Health, Quebec.

1. **Changes in the Population Pattern as Revealed by the 1951 Census.**
   O. A. LEMIEUX, Ph.D., Director of the Canadian Census, Ottawa.
2. **International Developments in Vital Statistics.**
   FRASER HARRIS, Director, Health and Welfare Division, Dominion Bureau of Statistics, Ottawa.
3. **Experience in the Care and Survival of the Immature, in Saskatchewan.**
   DR. MURRAY S. ACKER, Director of Research and Statistics, and DR. S. C. BEST, Director of Child Health, Saskatchewan Department of Public Health, Regina.

TUESDAY, 9.30 a.m.

SANITARY INSPECTION

Chairman: LEOPOLD FONTAINE, B.S., B.Sc.A., P.Eng., Assistant Chief Engineer, Ministry of Health, Quebec.

1. **Sanitary Developments on the Bersimis River.**
   JEAN PAUL GOURDEAU, B.Sc.A., M.S., P.Eng., Sanitary Engineer, Ministry of Health, Quebec.
2. **Cleanliness in Restaurants.**
   DR. MARC BERGERON, D.P.H., Medical Officer, and P. H. GAGNON, M. V., Sanitary Inspector, St. Hyacinthe County Health Unit.
3. **Health Hazards of the Summer Season.**
   ROMEO MONDELLO, B.Sc.A., M.S., P.Eng., Chief Engineer and Superintendent, Division of Sanitary Inspection, Department of Health of Montreal.

TUESDAY, 9.30 a.m.

PUBLIC HEALTH ADMINISTRATION SECTION

Chairman: DR. GUSTAVE CHAREST, D.P.H., M.P.H., Epidemiologist and Superintendent, Division of Communicable Diseases, Department of Health, Montreal, and Secretary, La Société d'Hygiène et de Médecine Préventive de la Province de Québec.

1. **Twenty-Five Years of Child Welfare in Levis.**
   DR. FRANCOISE LESSARD, D.P.H., Assistant Medical Officer of the Levis County Health Unit.
2. **Report on the Gamma Globulin Situation.**
   DR. B. D. B. LAYTON, D.P.H., Principal Medical Officer, Research Development, Department of National Health and Welfare, Ottawa.
3. **Milk Pasteurization and the Law Courts of New Brunswick.**
   DR. R. D. LANDRY, D.P.H., District Medical Health Officer, Moncton, N.B.
4. **Studies on Staphylococcal Infection.**
   MR. JEAN MARC DESRANLEAU, L.S.Ch., Chief Bacteriologist, and MISS IRENE MARTIN, R.T., Division of Laboratories, Ministry of Health, Montreal, and DR. MAURICE ST. MARTIN, Bacteriologist, Hôtel-Dieu Hospital, Montreal.

TUESDAY, 9.30 a.m.

FIRST CANADIAN MEDICAL CARE CONFERENCE

(Second Session)

Chairman: MR. C. HOWARD SHILLINGTON, Executive Director, Trans-Canada Medical Plans, Toronto.

The Manitoba Medical Service Program.
DR. J. C. McMASTER, Executive Director, Manitoba Medical Service, Winnipeg.

En Discussion:

DR M. R. ELLIOTT, D.P.H., Sous-Ministre de la Santé, Département de la Santé et du Bien-Etre, Province de Manitoba, Winnipeg.

M. L. FRANCIS, Division des Recherches, Département de la Santé Nationale et du Bien-Etre Social, Ottawa.

DR C. A. METZNER, Professeur associé de Recherches, Bureau des Ressources en Santé Publique, Université de Michigan, Ann Arbor.

DR V. MATTHEWS, Officier Médical de la Région Sanitaire de Swift Current, Saskatchewan.

MARDI, 12.30 p.m.

DEJEUNER DE LA SOCIETE D'HYGIENE ET DE MEDECINE PREVENTIVE DE LA PROVINCE DE QUEBEC

Président: DR CYRILLE POMERLEAU, D.P.H., Président de la Société d'Hygiène et de Médecine Préventive.

Invité d'Honneur: DR JEAN GREGOIRE, M.P.H., Dr.P.H., Sous-Ministre de la Santé, Québec.

MARDI, 2.30 p.m.

LE FESTIVAL DU FILM

Chambre des Comités — Représentation Continuelle

MARDI, 2.30 p.m.

SECTION DE L'ENSEIGNEMENT DE L'HYGIENE

Président: M. J. C. YOUNG, Division des Services de l'Information, Département de la Santé Nationale et du Bien-Etre Social, Ottawa.

Le Rôle de l'Agence Volontaire dans l'Education en Hygiène

Introduction du sujet.

Mlle MARGARET CAHOON, B.A., B.Ed., I.L., Ecole d'Hygiène, Université de Toronto, Toronto.

Courts rapports des agences volontaires représentées.

Discussion.

MARDI, 2.30 p.m.

SECTION DE L'HYGIENE DENTAIRE

Président: R. A. CONNOR, D.D.S., D.D.P.H., Directeur de la Division de l'Hygiène Dentaire, Unité Sanitaire de Ste-Catharines-Lincoln, Ste-Catharines, Ontario.

1. **La Fluoration de l'Eau dans un Programme d'Hygiène Dentaire.**
   CLARENCE BOUILLON, D.D.S., M.P.H., Directeur de la Section d'Hygiène Dentaire, Service de Santé, Montréal.
2. **Le Rôle du Dentiste Hygiéniste dans un Programme d'Hygiène Dentaire.**
   B. J. O'MEARA, D.D.S., D.D.P.H., Directeur de la Division de l'Hygiène Dentaire, Département de la Santé et du Bien-Etre Social, Charlottetown, I.P.E.
3. **L'Intégration de l'Hygiène Dentaire dans un Programme de Nursing Généralisé.**
   Mlle SUZANNE TARDIF, I.L., P.H.N., Educatrice-Hygiéniste, Unité Sanitaire de Rouyn-Noranda.
4. **Education en Hygiène Dentaire.**
   JEAN LAMBERT, D.D.S., Unité Sanitaire, Cap-de-la-Madeleine.

MARDI, 2.30 p.m.

CONFERENCE SUR LES SOINS MEDICAUX

(Troisième Séance)

Président: DR LEONARD MILLER, M.P.H., Sous-Ministre de la Santé de Terre-Neuve, Saint-Jean.

Discussants:

DR. M. R. ELLIOTT, D.P.H., Deputy Minister of Health, Manitoba Department of Health and Public Welfare, Winnipeg.

MR. L. FRANCIS, Research Division, Department of National Health and Welfare, Ottawa.

DR. C. A. METZNER, Research Associate, Bureau of Public Health Economics, University of Michigan, Ann Arbor.

DR. V. MATTHEWS, Medical Health Officer, Swift Current Health Region, Swift Current, Saskatchewan.

TUESDAY, 12.30 p.m.

LUNCHEON OF LA SOCIETE D'HYGIENE ET DE MEDICINE PREVENTIVE DE LA PROVINCE DE QUEBEC

Chairman: DR. CYRILLE POMERLEAU, D.P.H., President of La Société d'Hygiène et de Médecine Préventive.

Guest of Honour: DR. JEAN GREGOIRE, M.P.H., Dr.P.H., Deputy Minister of Health, Quebec.

TUESDAY, 2.30 p.m.

HEALTH FILM FESTIVAL

Committee Room — Continuous Showings

TUESDAY, 2.30 p.m.

PUBLIC HEALTH EDUCATION SECTION

Chairman: J. C. YOUNG, Information Services Division, Department of National Health and Welfare, Ottawa.

The Role of the Voluntary Agency in Health Education

Introduction of the Subject.

Miss MARGARET CAHOON, B.A., B.Ed., R.N., School of Hygiene, University of Toronto.

Brief Reports from the Voluntary Agencies Represented.

Discussion.

TUESDAY, 2.30 p.m.

DENTAL PUBLIC HEALTH SECTION

Chairman: R. A. CONNOR, D.D.S., D.D.P.H., Director, Dental Division, St. Catharines—Lincoln Health Unit, St. Catharines, Ontario.

1. **The Fluoridation of Water in a Dental Health Program.**
   CLARENCE BOUILLON, D.D.S., M.P.H., Dental Hygiene Section, Department of Health of Montreal.
2. **The Role of the Dental Hygienist in a Dental Health Program.**
   B. J. O'MEARA, D.D.S., D.D.P.H., Director, Division of Dental Public Health, Department of Health and Welfare, Charlottetown, Prince Edward Island.
3. **The Integration of Dental Health in a Generalized Nursing Program.**
   Miss SUZANNE TARDIF, R.N., P.H.N., Health Educator, County Health Unit of Rouyn-Noranda, Rouyn.
4. **Dental Health Education.**
   JEAN LAMBERT, D.D.S., County Health Unit, Cap de la Madeleine.

TUESDAY, 2.30 p.m.

FIRST CANADIAN MEDICAL CARE CONFERENCE

(Third Session)

Chairman: DR. LEONARD MILLER, M.P.H., Deputy Minister of Health, St. John's, Newfoundland.

1. **Soins Médicaux pour les Patients d'Assistance Publique en Saskatchewan.**
DR MILTON I. ROEMER, Directeur, Services Médicaux et Hospitaliers, Département de la Santé Publique, Province de Saskatchewan, Regina.

En Discussion:

M. A. K. GILLIES, Assistant-Exécutif, Association Médical de l'Ontario, Toronto.

Mlle E. S. GOVAN, Ph.D., Secrétaire des Projects Spéciaux, Conseil Canadien du Bien-Etre, Ottawa.

DR B. D. G. CURRY, Officier Médical en Chef, Commission des Accidents du Travail de l'Ontario, Toronto.

MARDI, 6.00 p.m.

COQUETEL DU MINISTRE

Gracieusement offert aux délégués et à leurs épouses par l'Honorable Ministre de la Santé: l'Hon. J. H. A. PAQUETTE, M.D.

MARDI, 7.00 p.m.

ASSOCIATION CANADIENNE DE SANTE PUBLIQUE

Dîner Annuel

Président: M. THEO. J. LAFRENIERE, B.Sc.A., M.Eng., Dr.S.C., Ing. Prof., Ingénieur en Chef, Ministère de la Santé, et Président de l'Association Canadienne de Santé Publique.

L'Intégration de l'Administration, l'Enseignement et la Recherche en Hygiène Publique.

DR JULES GILBERT, D.P.H., Directeur de la Division de l'Enseignement de l'Hygiène, Ministère de la Santé, et Sécrétaire de l'Ecole d'Hygiène, Université de Montréal.

Les billets seront en vente au bureau d'inscription jusqu'à 10.00 a.m. mardi.

Tenue: le smoking n'est pas de rigueur, sauf pour les invités de la table d'honneur.

MERCREDI, 9.30 a.m.

ASSOCIATION CANADIENNE DE SANTE PUBLIQUE

Séance Plénière

Président: M. THEO.-J. LAFRENIERE, B.Sc.A., M.Eng., Dr.Sc., Ing. Prof., Président de l'Association Canadienne de Santé Publique.

1. **Points Saillants du Nursing en Hygiène Publique dans le Nord de l'Europe.**
Mlle DOROTHY PERCY, I.L., Consultante en Nursing, Département de la Santé Nationale et du Bien-Etre Social, Ottawa.
2. **Nouveaux Antigènes Pro-infectieux et Immunisants.**
DR ARMAND FRAPPIER, O.B.E., M.D., L.Sc., M.S.R.C., Directeur de l'Institut de Microbiologie et d'Hygiène, et Doyen de l'Ecole d'Hygiène, Université de Montréal.
3. **Considérations Objectives sur le Problème de la Pollution des Cours d'Eau.**
M. L. A. KAY, M.A.Sc., P.Eng., Ingénieur Hygiéniste Senior, Département de la Santé et du Bien-Etre Social, Province de Manitoba, Winnipeg.
4. **Le Patient Tuberculeux Récalcitrant.**
DR D. G. McCURDY, D.P.H., Officier Médical Divisionnaire, Unité Sanitaire de Cap Breton-Nord, Sydney, N. E.

MERCREDI, 12.30 p.m.

SECTION DE L'ENSEIGNEMENT DE L'HYGIENE

Déjeuner, suivi de la séance d'affaires
Salon Montcalm

Medical Care for Public Assistance Recipients in Saskatchewan.
DR. MILTON I. ROEMER, Director, Medical and Hospital Services, Saskatchewan Department of Public Health, Regina.

Discussants:
MR. A. K. GILLIES, Executive Assistant, Ontario Medical Association, Toronto.
Speaker to be announced.
MISS E. S. L. GOVAN, Ph.D., Secretary for Special Projects, Canadian Welfare Council, Ottawa.
DR. B. D. G. CURRY, Chief Medical Officer, Ontario Workmen's Compensation Board, Toronto.

TUESDAY, 6.00 p.m.

COCKTAIL PARTY

Graciously arranged for Members and Their Wives by the Honourable the Minister of Health, HON. J. H. A. PAQUETTE, M.D.

TUESDAY, 7.00 p.m.

CANADIAN PUBLIC HEALTH ASSOCIATION

Annual Dinner

Chairman: MR. THEO. J. LAFRENIERE, B.Sc.A., M.Eng., Dr.Sc., P.Eng., Chief Engineer, Ministry of Health, Montreal, and President, Canadian Public Health Association.

The Integration of Services, Teaching, and Research in Public Health Work.
DR. JULES GILBERT, D.P.H., Director, Division of Health Education, Ministry of Health, Montreal, and Secretary, School of Hygiene, University of Montreal.

Tickets will be on sale at the Registration Desk until 10 a.m. on Tuesday.
Dinner jackets for head-table guests; optional for others.

WEDNESDAY, 9.30 a.m.

CANADIAN PUBLIC HEALTH ASSOCIATION

General Meeting

Ballroom

Chairman: MR. THEO. J. LAFRENIERE, B.Sc.A., M.Eng., Dr.Sc., P.Eng., Chief Engineer, Ministry of Health, Quebec, and President of the Canadian Public Health Association.

1. **Highlights of Public Health Nursing in Northern Europe.**
   MISS DOROTHY PERCY, R.N., Nursing Consultant, Department of National Health and Welfare, Ottawa.
2. **New Antigens Promoting Infection and Immunity.**
   DR. ARMAND FRAPPIER, O.B.E., L.Sc., M.R.S.C., Director of the Institute of Microbiology and Hygiene, and Dean of the School of Hygiene, University of Montreal.
3. **An Objective Approach to the Problem of Stream Pollution.**
   MR. L. A. KAY, M.A.Sc., P.Eng., Senior Public Health Engineer, Manitoba Department of Health and Public Welfare, Winnipeg.
4. **The Recalcitrant Tuberculous Patient.**
   DR. G. D. McCURDY, D.P.H., Divisional Medical Health Officer, Cape Breton North Health Unit, Sydney, Nova Scotia.

WEDNESDAY, 12.30 p.m.

PUBLIC HEALTH EDUCATION SECTION

Luncheon followed by Business Meeting
Salon Montcalm

AUTRES DEJEUNERS DE SECTION

Sur demande faite avant mardi, 6.00 p.m. On devra garantir le nombre de couverts.

MERCREDI, 2.30 p.m.

SECTIONS DE L'ENSEIGNEMENT DE L'HYGIENE ET DE L'HYGIENE DENTAIRE

Président: R. A. CONNOR, D.D.S., D.D.P.H., Directeur de la Division de l'Hygiène Dentaire, Unitè Sanitaire de Ste-Catharines—Lincoln, Ste-Catharines, Ontario.

Moderateur: DR JULES GILBERT, D.P.H., Directeur de la Division de l'Enseignement de l'Hygiène, Ministère de la Santé, Montréal, et Secrétaire de l'Ecole d'Hygiène, Université de Montréal.

Situation de l'Education en Hygiène Dentaire

Participants:

Le Point de Vue du Dentiste Hygiéniste.
FRANK COMPTON, D.D.S., D.D.P.H., Département de la Santé Publique, Ville de Toronto, et GLENN T. MITTON, D.D.S., D.D.P.H., Département de la Santé Publique Dentaire, Université de Toronto.

Le Point de Vue du Nutritioniste.
Nom à venir.

Le Point de Vue des Infirmières.
Mlle RITA DOYON, I.L., B.Sc., Service de Santé, Montréal.

Le Pont de Vue des Professeurs
Mlle MARGARET E. NIX, Ph.D., Département d'Hygiène et de Médecine Soeiale, Université McGill, Montréal.

Le Point de Vue des Educateurs Hygiénistes.
M. CHRISTIAN SMITH, Directeur de l'Enseignement de l'Hygiène, Département de la Santé de la Province de Saskatchewan, Regina.

MERCREDI, 2.30 p.m.

SECTION DE L'INSPECTION SANITAIRE

Président: DR MARC L'HEUREUX, I.S., M.V., Inspecteur Sanitaire, Unité Sanitaire de Louiseville.

1. **L'Inspection d'un Terrain d'Ecole.**
   M. J. N. ALLY, I.S., C.S.I.(C.), Inspecteur Sanitaire, Unité Sanitaire de Drummondville.
2. **Les Maladies Animales Transmissibles à l'Homme.**
   MAURICE PANISSET, B.A., D.V., M.V., Chef du Département de Bactériologie, Ecole d'Hygiène, Université de Montréal.
3. **Epreuves Sanitaires de la Qualité du Lait.**
   M. J. B. VEILLEUX, I.S., C.S.I.(C.), Inspecteur Sanitaire des Produits Laitiers, Unité Sanitaire de Beauceville.
4. **Interprétation des Résultats d'Analyse d'Echantillons d'Eau.**
   M. JACQUES ARCHAMBAULT, B.A., I.Ch., D.Sc.A., Chef des Laboratoires, Ministère de la Santé, Montréal.

MERCREDI, 2.30 p.m.

SECTION D'ADMINISTRATION EN HYGIENE PUBLIQUE

Président: DR ARMAND LABERGE, D.P.H., Assistant Sous-Ministre Adjoint, Ministère de la Santé, Québec.

1. **Les Intoxications Alimentaires.**
   DR JULES A. BRIEN, M.P.H., Assistant directeur, Division des Aliments, Service de Santé, Montréal.

OTHER SECTION LUNCHEONS

can be held if arrangements are made by 6.00 p.m. Tuesday.
The Section will guarantee the number of guests.

WEDNESDAY, 2.30 p.m.

SECTIONS OF PUBLIC HEALTH EDUCATION AND DENTAL PUBLIC HEALTH

Chairman: R. A. CONNOR, D.D.S., D.D.P.H., Director, Dental Health Division, St. Catharines—Lincoln Health Unit, St. Catharines, Ontario.

Moderator: DR. JULES GILBERT, D.P.H., Director, Division of Health Education, Ministry of Health, Montreal, and Secretary, School of Hygiene, University of Montreal.

What of Dental Health Education?

Participants:

The Dental Public Health Point of View.
FRANK COMPTON, D.D.S., D.D.P.H., Department of Public Health, City of Toronto, and GLENN T. MITTON, D.D.S., D.D.P.H., Dental Public Health Department,University of Toronto.

The Nutritionist's Point of View.
Speaker to be announced.

The Nurse's Point of View.
Miss RITA DOYON, R.N., B.Sc., Department of Health of Montreal.

The Teacher's Point of View.
Miss MARGARET E. NIX, Ph.D., Department of Health and Social Medicine, McGill University, Montreal.

The Public Health Educator's Point of View.
CHRISTIAN SMITH, Director of Health Education, Saskatchewan Department of Public Health, Regina.

WEDNESDAY, 2.30 p.m.

SECTION OF SANITARY INSPECTION

Chairman: MARC L'HEUREUX, M.V., Sanitary Inspector, County Health Unit, Louiseville.

1. **The Inspection of a School Site.**
   J. N. ALLY, I.S., C.S.I.(C.), Sanitary Inspector, County Health Unit, Drummondville.
2. **Animal Diseases Transmissible to Man.**
   MAURICE PANISSET, B.A., D.V., M.V., Chief, Department of Bacteriology, School of Hygiene, University of Montreal.
3. **Sanitary Tests on the Quality of Milk.**
   J. B. VEILLEUX, I.S., C.S.I.(C.), Sanitary Inspector of Dairy Products, County Health Unit, Beauceville.
4. **Interpretation of Results of Water Analysis.**
   JACQUES ARCHAMBAULT, B.A., I.Ch., D.Sc.A., Chief of Laboratories, Ministry of Health, Montreal.

WEDNESDAY, 2.30 p.m.

PUBLIC HEALTH ADMINISTRATION SECTION

Chairman: DR. ARMAND LABERGE, D.P.H., Assistant to the Acting Deputy Minister of Health, Quebec.

1. **Food Intoxications.**
   DR. JULES A. BRIEN, M.P.H., Assistant Director, Food Division, Department of Health of Montreal.

2. **Résultats de la Vaccination contre la Coqueluche.**
DR A. ROGER FOLEY, M.P.H., Dr.P.H., Epidémiologiste au Ministère de la Santé, Québec, et Chef du Département de Biométrie et d'Epidémiologie, Ecole d'Hygiène, Université de Montréal.

3. **"Un Semeur Sortit pour Semer . . . "**
DR ALFRED QUIMPER, D.P.H., Directeur Médical, Unité Sanitaire de Rimouski.

4. **Le Contrôle des Mauvaises Herbes à Montréal.**
DR AD. GROULX, M.P.H., F.R.S.I.(E.), Directeur du Service de Santé de Montréal.

MERCREDI, 2.30 p.m.

SECTION DES INFIRMIERES HYGIENISTES

Présidente: Madame MARIE-PAULE R. COUTURE, I.L., P.H.N., Ministère de la Santé, Québec.

1. **Titre à venir.**

2. **Le Rôle d'une Infirmière-Hygiéniste dans une Division de l'Inspection Sanitaire.**
Mlle LAURETTE SENECAL, I.L., P.H.N., Division de l'Inspection Sanitaire, Service de Santé, Montréal.

3. **L'Hôpital dans le Plan de Santé Publique.**
Mlle HAZEL I. MILLER, I.L., B.Sc., Directrice des Services du Nursing, Hôpital Herbert Reddy Memorial, Montréal.

2. **Results of Whooping Cough Vaccination.**
DR. A. ROGER FOLEY, M.P.H., Dr.P.H., Epidemiologist, Ministry of Health, Quebec, and Head, Department of Biometrics and Epidemiology, School of Hygiene, University of Montreal.

3. **"The Sower Went Out to Sow His Seeds . . ."**
DR. ALFRED QUIMPER, D.P.H., Medical Director, Rimouski County Health Unit.

4. **Weed Control in Montreal.**
DR. AD. GROULX, M.P.H., F.R.S.I.(E.), Director, Department of Health, Montreal.

WEDNESDAY, 2.30 p.m.

PUBLIC HEALTH NURSING SECTION

Presiding: Mrs. MARIE-PAULE R. COUTURE, R.N., P.H.N., Ministry of Health, Quebec.

1. **To be announced.**

2. **The Role of a Public Health Nurse in a Division of Sanitary Inspection.**
MISS LAURETTE SENECAL, R.N., P.H.N., Division of Sanitary Inspection, Department of Health, Montreal.

3. **The Hospital in the Public Health Program.**
MISS HAZEL I. MILLER, R.N., B.Sc., Director of Nursing Services, Herbert Reddy Memorial Hospital, Montreal.

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